

Version Control	SVN (subversion)
Tracking (bug, issues)	Trac
Requirements	OSRMT (ALM)
Testing – Web	SAHI
Testing – Performance	Grinder

DTS' open source adoption started with VMware and Linux, which fueled the transformation of the enterprise server architecture.

The DTS Server team had a need to monitor the enterprise server infrastructure and selected Zenoss as its primary Enterprise Server Management tool. Zenoss is similar to high cost commercial products including OpenView™, Tivoli™, and Unicenter™, and has proven to be even more advanced than the commercial products in some areas. The cost of a commercial product would have been in the millions of dollars.

DTS uses Zenoss for monitoring and alert functionality through the use of the Zenoss console, the ITIL CMDB standard inventory capability for rich modeling of the servers and their patch management and update process, the performance monitoring capabilities for proactive alerts and capacity planning exercises, the email notification capability to alert DTS Server Team Members performing off hours support of critical alert errors such as "System Down" for reactive attention. The system is even more valuable as it sends alerts for excessive CPU, memory or disk usage enabling preventative maintenance before users experience problems.

DTS will continue to investigate opportunistically and adopt open source when it is found to meet the needs of business and fit into the County IT architecture.

### **5.1.3 Open Source Software Solutions**

DTS has had and continues to have pragmatic approach to the use and implementation of Open Source software. The focus is always on the long term stability and supportability of the applications. The Open Source operating systems, middleware and tools have been leveraged extensively and proven highly effective.

To date, DTS has deployed limited Open Source software on enterprise Desktop PC's. The standard desktop now includes CutePDF for the creation of PDF documents improving end user productivity, reducing storage needs, improving document quality, and reducing the need to purchase commercial software for most users.

As this segment of Open Source evolves and matures, DTS will continue to investigate, test and validate applications for use in the enterprise. The usability and supportability issues can be a significant barrier given the large number of users and training and interoperability needs. An example of an application suite that appears nearing maturity that DTS is planning to investigate is Open Office.

#### 5.1.4 Open standards (i.e., LDAP, XML, J2EE, etc.)

The Service Enabled Domain promotes the development of robust, scalable and flexible services for business integration with the County infrastructure. The goal is to achieve a cooperative and secure service and data sharing environment, and to avoid data replication

The County recognizes the importance of developing Services capable of integration with internal and external systems. To maximize the interoperability of County systems, the platform adheres to open architecture, conforming to open standards. The following table lists the County's supported standards and protocols.

**Figure 20 - County's supported standards and protocols**

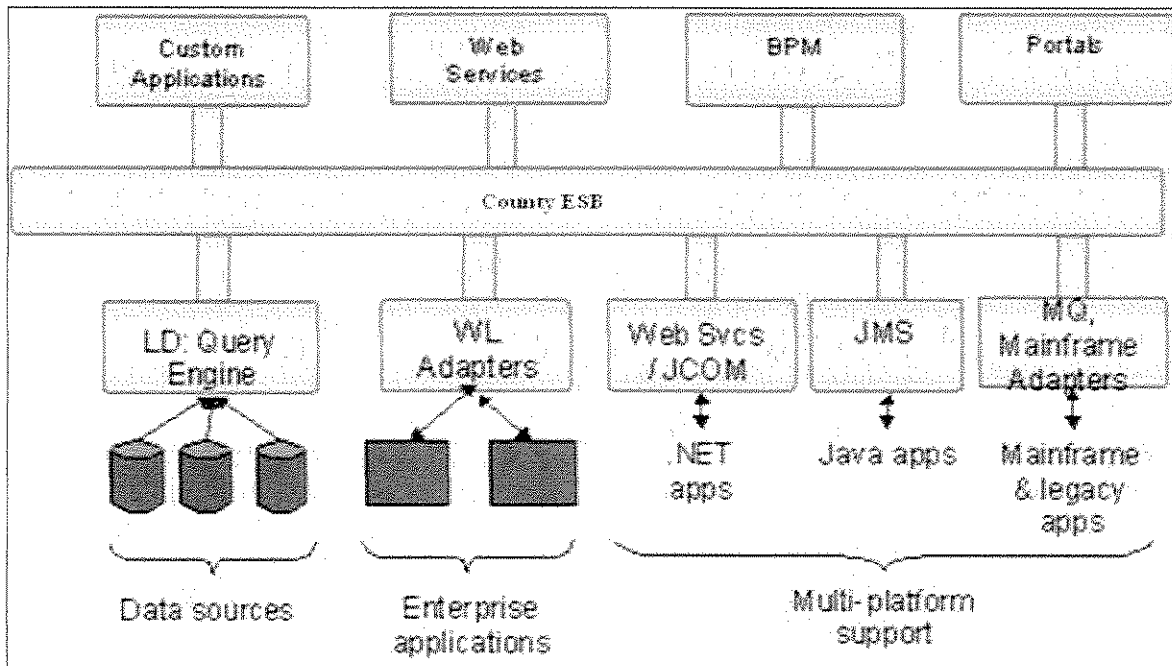
Open DataBase Connectivity (ODBC)
Lightweight Directory Access Protocol (LDAP)
Transmission Control Protocol (TCP/IP)
Extensible Markup Language (XML, XSLT)
HyperText Markup Language (HTML, XHTML)
Java, J2EE
Enterprise Java Bean (EJB)
Java Messaging Services (JMS)
Service Oriented Access Protocol (SOAP)
Secure Hypertext Transfer Protocol (HTTPS)
Web Services Description Language (WSDL)
Universal Description Discovery and Integration (UDDI)

An event-based, messaging model was adopted to help avoid stovepipes (rigid, self-contained functionally organized service solutions for each department, not acting as a single-entity). To do this, the County hosts a healthy mix of services. Some have been developed in-house, and some are COTS (Commercial Off- The-Shelf) solutions. Each application will document and publish well-defined interfaces to the protocols identified in this section.

An events-based messaging service will foster the maturation of service implementations based on Service Oriented Architecture (SOA). The County encourages the use of XML to define event messages, Web Services technologies for integrating .NET and J2EE services and Enterprise Java Bean (EJB) for integrating J2EE services.

The following illustration depicts the Enterprise Services Bus (ESB) developed by DTS as the basis for enterprise messaging services between applications.

Figure 21 - Enterprise Service Bus (ESB)



### 5.1.5 Environmental (green)

#### Green Desktops

The average desktop PC wastes nearly half of the energy it consumes as heat. This wasted electricity translates to higher electricity bills and increased greenhouse gas emissions. DCM uses power management features on County computers which can CO2 emissions and save an average of more than \$60 a year in energy costs per PC. (Source: <http://www.climatesaverscomputing.org/>)

Since the DCM program started back in 1999, the County has standardized on ENERGY STAR compliant PCs. ENERGY STAR 4.0 is expected to save consumers and businesses more than \$1.8 billion in energy costs over the next 5 years and prevent greenhouse gas emissions equal to the annual emissions of 2.7 million vehicles. (Source: <http://www.energystar.gov/index.cfm?c=home.index> )

Today, the Energy Star compliant workstations, desktops and notebooks can reduce power consumption by as much as 78%. (Assuming an Annual Usage Profiles of 1 hour max performance, 7 hours office productivity, 1 hour idle and 15 hours sleep state for 264 days a year; 24 hours sleep state for 101 days.)

DCM strives to meet or exceed industry standards in energy efficiency, using the latest benchmarks such as Energy Star 4.0 and EPEAT Gold standards. Standardizing on energy efficient computer equipment allows DCM to select power-efficient components.

DCM continues to make informed decisions on all new desktop and laptop models using an Energy Calculator which can help on how changes in power management settings and more efficient hardware options can positively impact energy costs, and can help optimize County infrastructure for high efficiency.

### **Green Data Center Innovations**

In the datacenter, the use of virtual servers has proven very advantageous in the County's efforts to reduce costs and greenhouse emissions and will continue to play a role in continuing the reduction of electrical needs moving forward.

DTS continues to follow best practices in the configuration and operations of the datacenter to reduce costs and greenhouse emissions. DTS has adopted the practice of a hot / cold isle configuration which have been proven to both improve cooling efficiencies, as well as server longevity. DTS is planning to implement further low cost solutions to further improve air flow in the datacenter and thereby reducing cooling costs and emissions.

Given numbers of (350) virtual and (70) physical servers we site in server virtualization section, and applying unit consumptions numbers from vendor websites (7,000 kWh and 4 tons per server annually) we are saving over 2 million kWh of electricity and 1,100 tons of carbon dioxide emissions per year.

#### **5.1.6 Voice over IP**

Montgomery County has been a demonstrated leader in the development and implement of new technologies in many areas. One such area, within the Telecommunications Operation, is the inclusion and rapid deployment of Voice over Internet Protocol (VoIP).

Voice over Internet Protocol (VoIP) is a general term for a family of transmission technologies for delivery of voice communications over IP networks such as the Internet or other packet-switched networks.

Montgomery County's Enterprise Telecommunications Team has numerous VoIP efforts included in the solution portfolio. As a direct result of the County's PBX platform upgrade in early, 2007, as business requirements demonstrate the need for enhanced voice services, these modern voice solutions can be integrated without complex changes to the infrastructure. An example of these service opportunities includes:

- IP Soft phone
- Mobility solutions
- Bluetooth headsets
- Wireless PBX phones
- Conferencing and Collaboration Solutions

- Distance Learning
- Desktop Video Telephony
- Wireless PDA
- Push Alerts and Messaged through VOIP display phone
- Unified Communications

All of the above solutions can be supported on the current platform. At the present time, only the IP Soft phone, which is used at the County's Emergency Operations Center, has been deployed for production use.

The Telecom Division is currently in the process of engaging various departments in developing strategies to leverage the systems capabilities in their business functions. Additionally, many of the above trends are being discussed for use in the planned MC311 contact center.

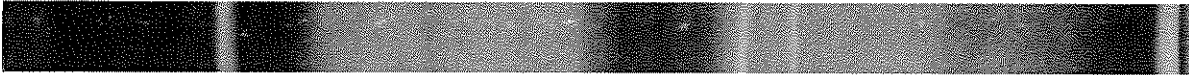
**Goal:**  
***Continually analyze and identify business communications opportunities that can be enhanced through the implementation of IP telephony solutions in an effort to automate communications functions and integrate business applications with advanced voice capabilities***

#### **5.1.7 Web 2.0 Strategies**

DTS has embraced the use of the internet to lower costs, extend the reach of communications and provide online services to County constituents and employees. While the tools, techniques and innovation has accelerated to a significant extent, DTS has integrated and adopted new web technologies as business drivers support the changes with visible and defined objectives.

As a result, DTS's Web 2.0 efforts support the County Executive's (CE) goal of "A Responsive and Accountable County Government." The Web 2.0 strategy uses highly innovative technology to provide comprehensive and cohesive access to information and services. The Web 2.0 program is a component of the County's on-going efforts to enhance the look, feel, navigation and functionality of the County's web portal to provide wide-ranging service options to County residents. The County's web portal has been recognized with numerous awards and distinctions since its initial launch in 2002, and DTS will continue to work with County Departments and Offices to deploy creative, innovative and cost-effective technology solutions to improve the accessibility and utility of on-line services and information.

According to Wikipedia, the term "Web 2.0" describes the changing trends in the use of World Wide Web (WWW) technology and web design that aim to enhance creativity, communications, secure information sharing, collaboration and functionality of the web. Web 2.0 websites allow users to do more than just retrieve information. They can build on the interactive facilities of "Web 1.0" to provide "Network as platform" computing, allowing



users to run software-applications entirely through a browser. Users can own the data on a Web 2.0 site and exercise control over that data. These sites may have an "Architecture of participation" that encourages users to add value to the application as they use it. This stands in contrast to very old traditional websites, the sort which limited visitors to viewing and whose content only the site's owner could modify.

DTS began its Web 2.0 program in response to industry trends showing an increasing demand for on-line collaboration, social networking and social media technologies as well as the increasing availability of Web 2.0 tools and technologies. DTS has worked extensively with the County's Office of Public Information (OPI) and other County Departments and Offices to develop and enhance the County's Web 2.0 solution set. Current Web 2.0 solution components include, but are not limited to, the following elements:

1. Mash-ups
2. Really Simple Syndication (RSS)
3. Weblogs, or "Blogs"
4. Social networking
5. Podcasts

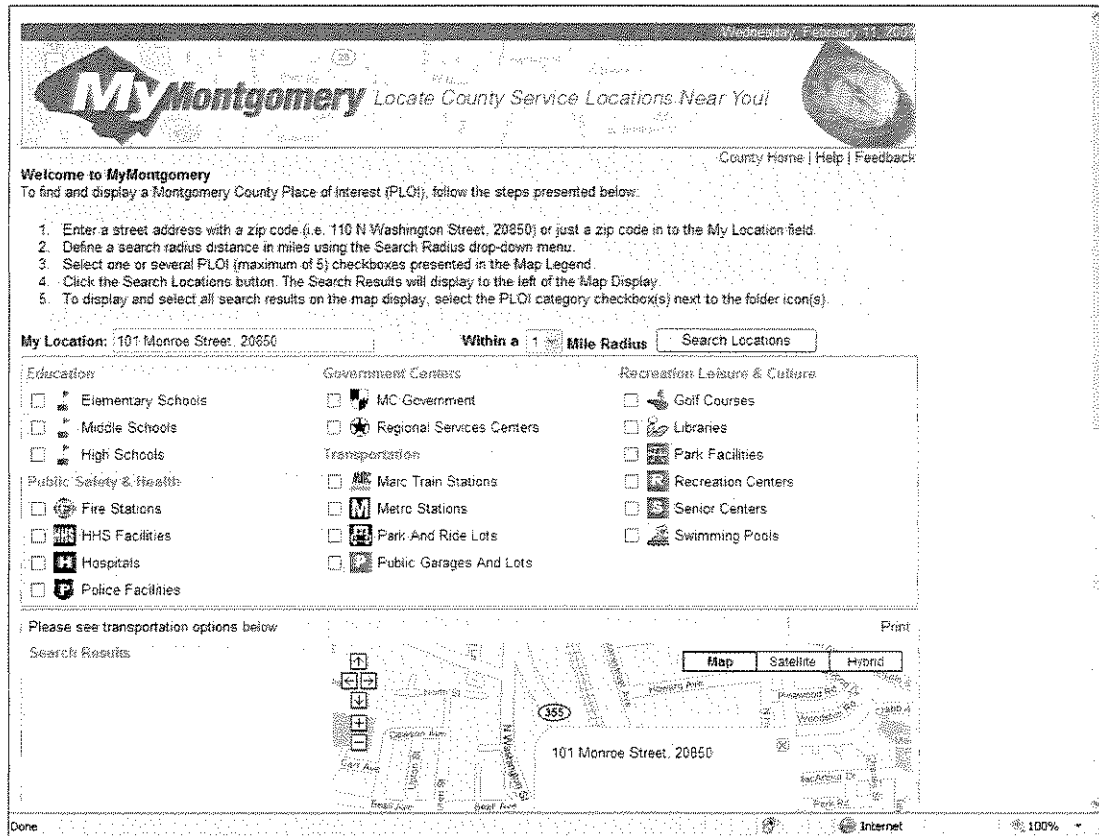
The County's implementation of these Web 2.0 solutions is described in greater detail in the following sections.

### **Mash-ups**

A mash-up is a Web application that combines data from more than one source into a single integrated tool. A mash-up provides easy and fast integration, and is frequently accomplished by access to open software and/or data sources.

The County has deployed several mash-ups on its website. One recent example is the implementation of the "MyMontgomery" tool (Figure 22 – MyMontgomery Home Page), which can be used on-line at the following web address (URL):  
<http://www2.montgomerycountymd.gov/mymontgomery/>.

Figure 22 - MyMontgomery Home Page



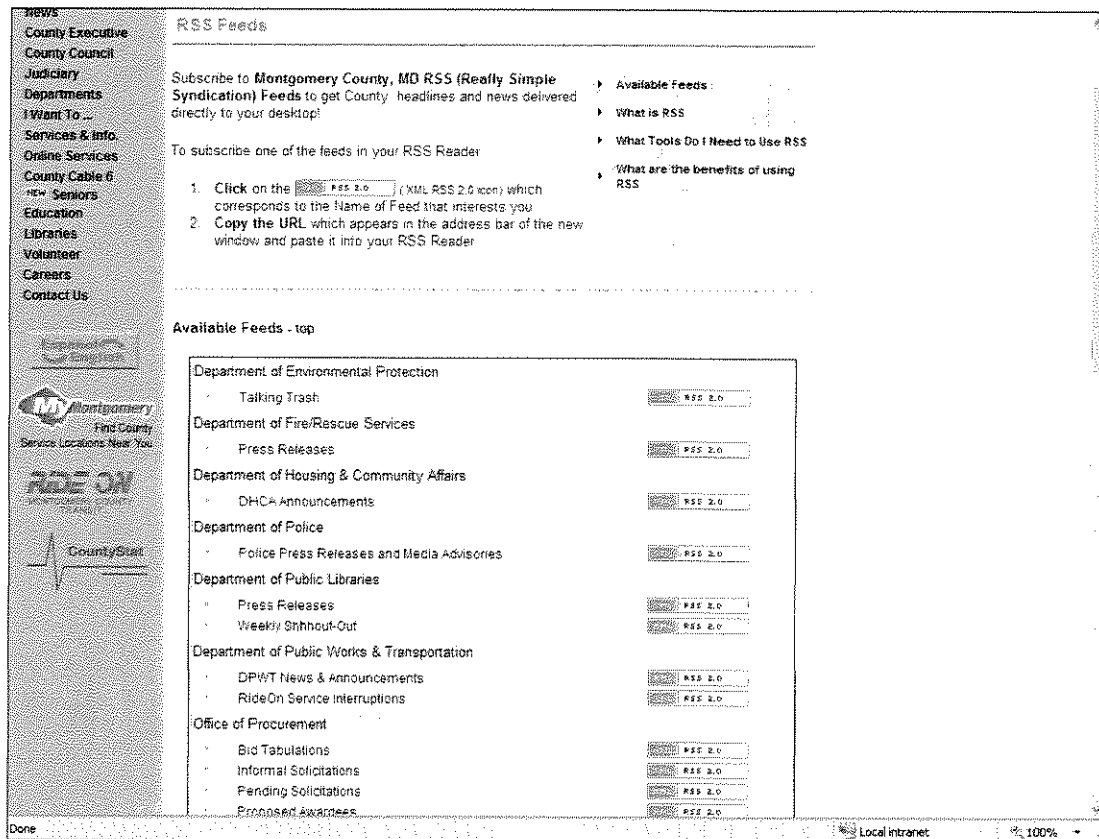
MyMontgomery combines nearly twenty (20) County Geographic Information System (GIS) data layers with Google mapping technology and provides a quick and easy way for County residents to locate County services. DTS incurred no additional or incremental hardware or software costs to develop the MyMontgomery solution because the Google mapping software is made available for free to application developers. Further, the GIS data used within the MyMontgomery application is maintained by DTS and checked regularly to ensure high quality and accuracy. DTS expects to expand the number and types of data layers available on MyMontgomery to further enhance the utility and usability of the solution.

### Really Simple Syndication (RSS)

RSS technologies provide web users the ability to subscribe to timely updates from favored websites or to aggregate feeds from many sites into one place. RSS feeds can be read using software called an "RSS reader" which can be web-based, desktop-based, a mobile device or any computerized Internet-connected device. The RSS reader checks the user's subscribed feeds regularly for new work, downloads any updates that it finds, and provides a user interface to monitor and read the feeds.

The County has deployed several RSS feeds on its website (Figure 23 – County RSS Feeds). A centralized listing of available RSS feeds may be found at the following URL: <http://www.montgomerycountymd.gov/apps/News/RSS/mcgRSS.asp>.

Figure 23 – County RSS Feeds



The County provides nearly twenty-five (25) RSS feeds categorized across eleven (11) County Departments and Offices. The web page also provides an overview of RSS technologies as well as links to web sites where users may download required RSS readers. DTS will continue to work with OPI and County Departments and Offices to expand the availability of RSS feeds.

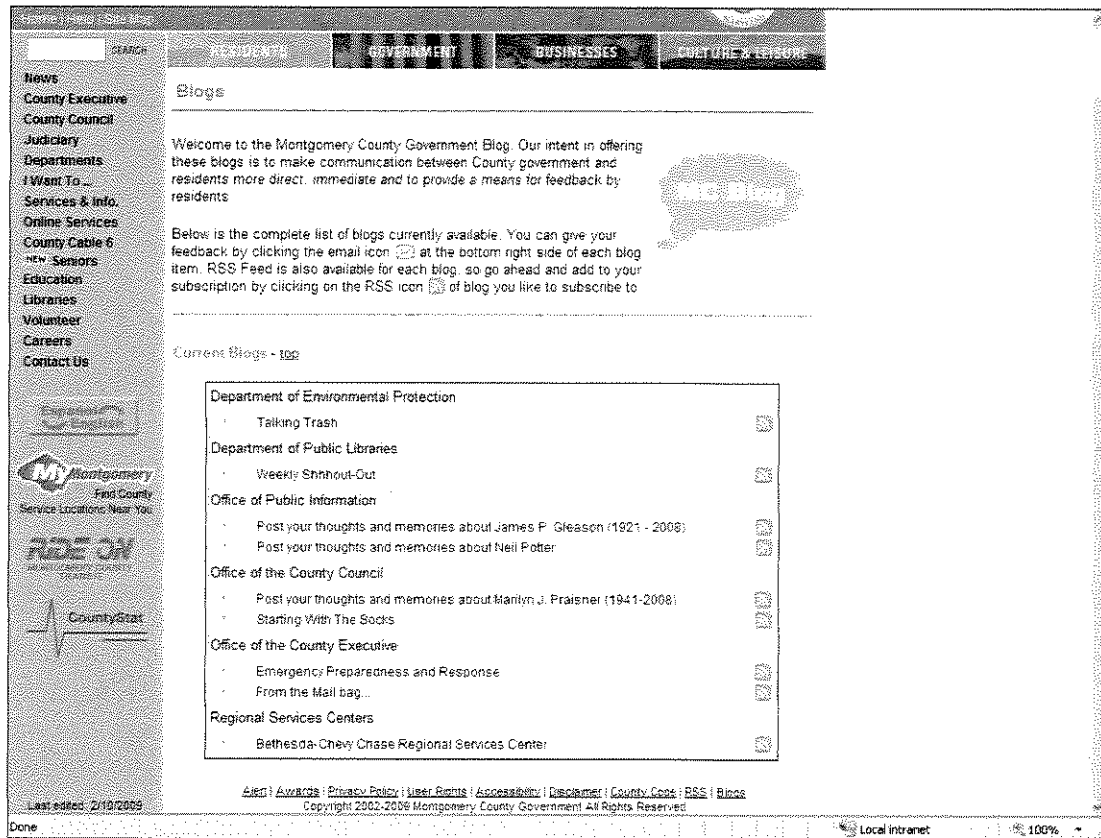
### Weblogs (Blogs)

A blog is a Web site, usually maintained by an individual with regular entries of commentary, descriptions of events, or other material.

The County has deployed several blogs on its website (Figure 24 – County Blogs). A centralized listing of available blogs may be found at the following URL:  
<http://www.montgomerycountymd.gov/apps/News/Blog/mcgBlog.asp>.



Figure 24 - County Blogs



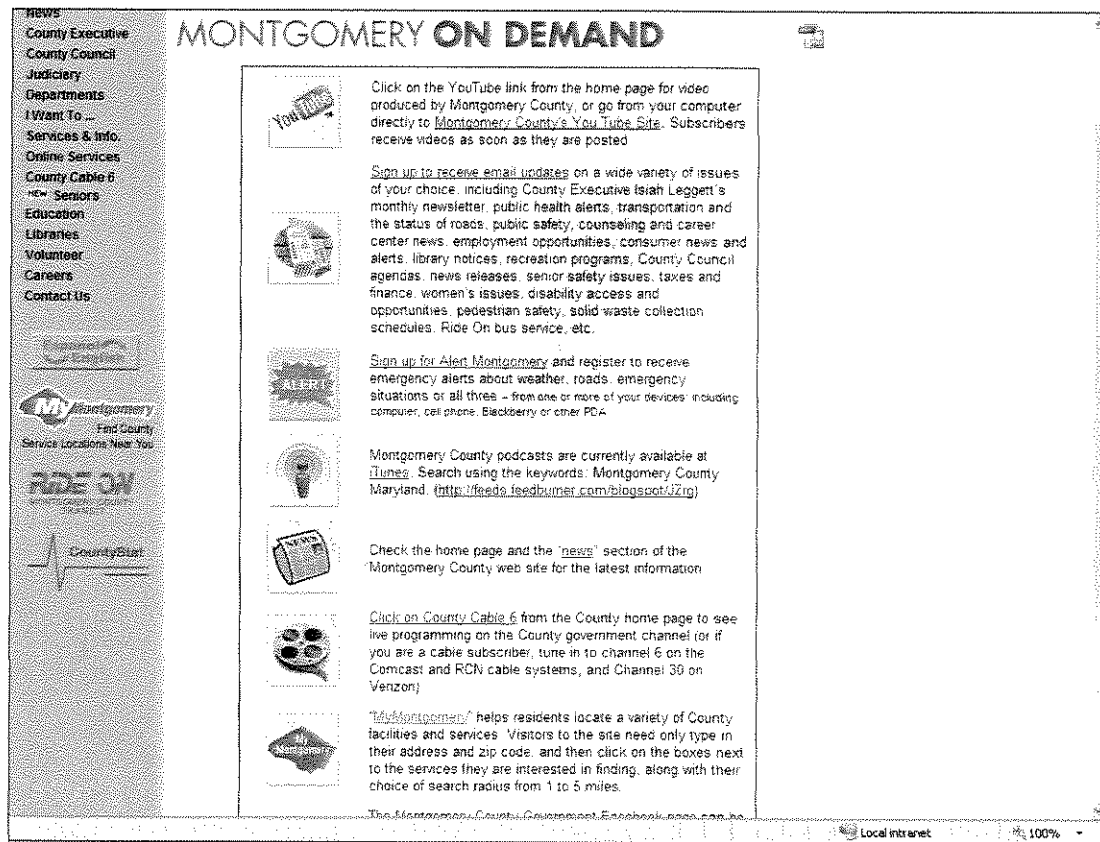
The County provides access to nearly ten blogs categorized by six (6) County departments and offices. These blogs help to improve communication between County government and residents by making communications more direct, immediate and to provide a means for feedback by residents. DTS expects to work extensively with OPI and County departments and offices to expand the availability and interactivity of existing blogs and to develop and deploy new and interesting blogs.

## Social Networking

Social networks focus on building online communities of people who share interests and/or activities, or who are interested in exploring the interests and activities of others. Most social network services are web based and provide a variety of ways for users to interact, such as e-mail and instant messaging services.

In early 2009, OPI encapsulated the County's social networking solution set into a branded offering known as "Montgomery On Demand" (Figure 25 – Montgonery On Demand). This can be accessed at the following URL: <http://www.montgomerycountymd.gov/>. DTS contributed significantly to the implementation of the Montgomery On Demand solution set components and provides on-going application and infrastructure support.

Figure 25 - Montgomery On Demand



Included in the Montgomery On Demand solution set are links to County content on YouTube, Podcasts on iTunes, access to County's Facebook pages, County Twitter pages, and other critical information such as emergency alerts, newsletters and cable programming. DTS expects that interest in social networking solutions will expand and will collaborate with OPI and County Departments and Offices to continue to expand the County's social networking portfolio.

## Podcasts

A podcast is a series of audio or video digital media files which are distributed over the Internet by syndicated download, through Web feeds, to portable media players and personal computers.

The County currently provides access to several Podcasts (Figure 26 – County Podcasts), which may be accessed on Apple itunes, or via the following URL directly:  
<http://feeds.feedburner.com/blogspot/JZrq>.

Figure 26 - County Podcasts



In addition to County Report, the Montgomery County Fire and Rescue Service (MCFRS) has a podcast available on the iTunes web site. DTS will work with OPI and other County Departments and Offices to provide infrastructure support for any additional Podcasts deployed in the future.

In summary, DTS, in collaboration with OPI and County Departments and Offices, has deployed several creative, innovative and cost-effective Web 2.0 solutions. Web 2.0 technologies may provide benefits including, but not limited to, enhanced constituent participation, improved on-line services and user interfaces, greater information accessibility, enhanced integration and collaboration, and reduced costs.

Wherever possible and practical, DTS will continue to provide support for the County's implementation of new and enhanced Web 2.0 technologies and business solutions. DTS will advocate Web 2.0 solutions for those County Departments and Offices seeking to deploy technology solutions to enhance creativity, communications, secure information sharing and collaboration. Departments must demonstrate viable business cases driving the need for Web 2.0 solutions, and must leverage existing DTS work intake processes (ex: IT Review, MITIRPS etc.) to initiate new Web 2.0 work programs.

#### 5.1.8 Collaboration

The Team Collaboration Service provides an easy to use online meeting place for internal County teams. Team members can come to a team portal and collaborate on projects using their desktop browsers.

The collaboration service provides some of the following abilities to a team:

- Announcements
- Meeting Agendas
- Document Sharing
- Calendar
- Tasks

- Discussion Board
- Linking Ability

When a team requests a collaboration site DTS allocates an area on the Enterprise collaboration server. DTS maintains the overall server providing proactive server management and backup facilities. When a team requests a new site it is set up by the DTS Site Administrator. The team must designate their own Site Administrator, who will be responsible for the content and administrative duties for the site, including: adding and deleting site users (Users must be County Active Directory members), and management of the content.

DTS maintains a collaboration section on the DTS departmental homepage on the Intranet Portal. The collaboration section will contain information about the service as well as a directory of all the collaboration sites.

#### **5.1.9 Heartbeat performance monitoring**

Despite overall success of many web application rollouts, a number of operational challenges mounted to sustain a heterogeneous set of technologies, hundreds of servers and complex networks.

Therefore, in addition to the infrastructure monitoring conducted by DTS (described in an earlier section), DTS also adopted the approach to institute continuous end-user simulated availability / performance monitoring. The "heartbeat" monitoring enables DTS to realize the following:

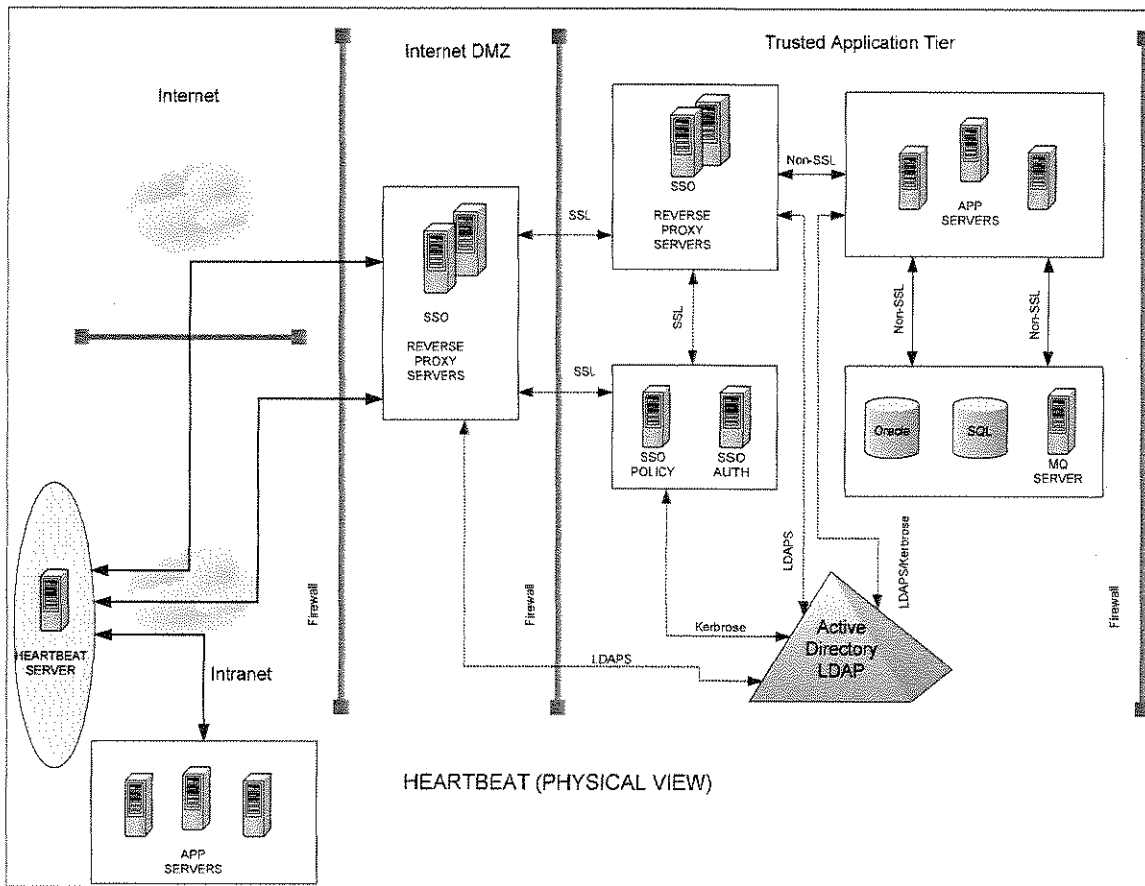
- Higher web application availability.
- 24x7 notification of issues to system engineers via email and/or pagers.
- Better root cause analysis of problems through leverage of historical logs from the monitor.

DTS currently has numerous active HEARTBEAT scripts which include.

- The primary County Internet portal, [www.montgomerycountymd.gov](http://www.montgomerycountymd.gov)
- Several Departmental / agency portals, such as Finance, Recreation, Parks.
- Enterprise Infrastructure: Single Sign-on, Crystal Reports Enterprise, Helpdesk, Imaging, Content Management System, Justice Systems, and MCTime

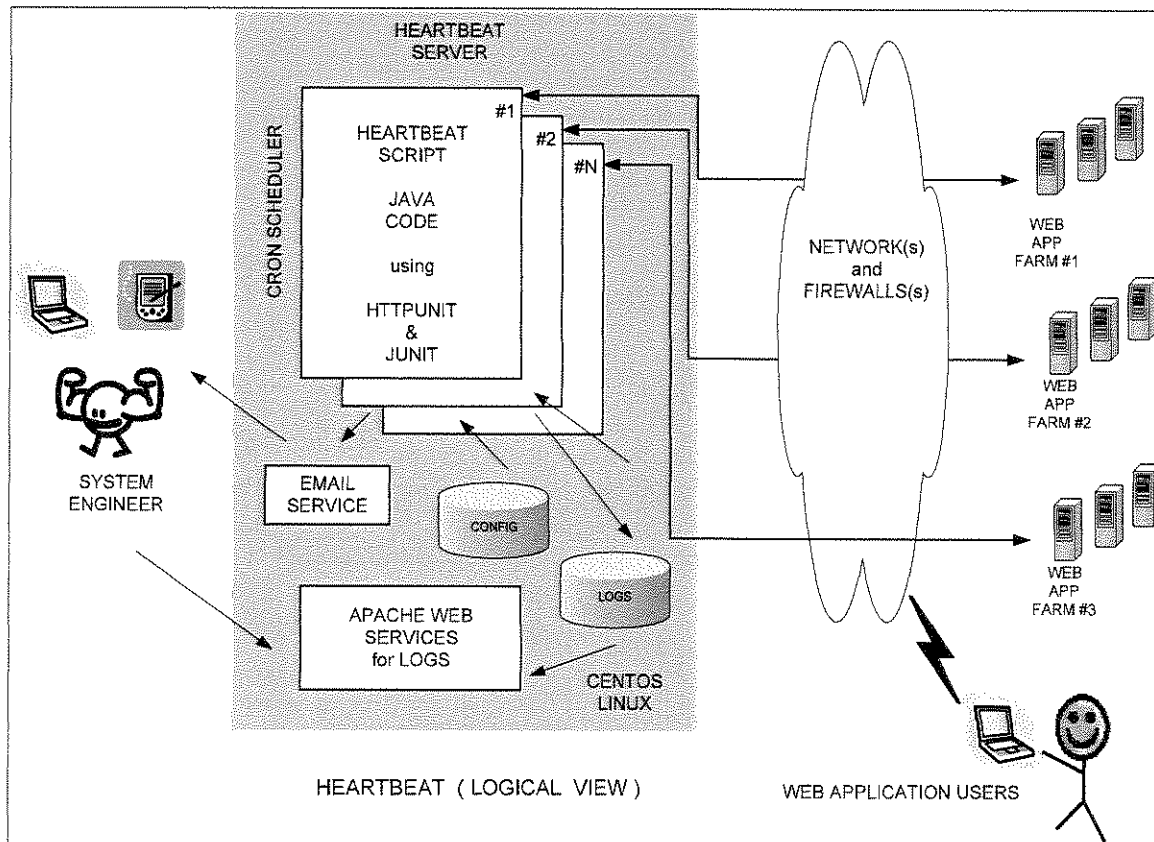
Below is the physical topology of the HEARTBEAT infrastructure. Worth noting, a single HEARTBEAT to one web application validates the health of tens of servers, many layers of middleware, databases and several networks.

Figure 27 - Physical topology of the HEARTBEAT infrastructure



As outlined in the logical view below, individual HEARTBEAT scripts, run in parallel / background monitoring access to web applications, in the event that unexpected behavior occurs, System Engineers are sent emails / text pages. Each HEARTBEAT script is independently configured for windows of operation, repeat intervals and which System Engineers are to be notified.

Figure 28 - Logical view of the Heartbeat Infrastructure



The combination of enterprise monitoring and heartbeats to discover emerging problems and perform preventive maintenance has dramatically reduced disruptive business system outages that impact end users.

#### 5.1.10 Enterprise Architecture Quarterly Assessment

As an implemented, best practice methodology, the Enterprise Architect takes input from the various program, initiatives and systems projects and creates a Quarterly Enterprise Architecture assessment that is published to the CIO, CTO, and DTS Chiefs. The Quarterly assessment identifies potential:

- Enterprise Architecture Framework and processes changes
- New Services – New technical services that can be offered outside the department
- Service Upgrades – Upgrades to current technical services
- Sustaining Services – New processes or tools around sustaining services
- Security Services
- Compliance Services

The update concludes with a section that previews possible research topics looking at future trends that could affect the Enterprise Architecture.

## **5.2 Existing Business Strategies**

The Department of Technology Services (DTS) has a defined focus that centers on outreach, customer support and collaborative innovation. As a direct result, many aspects of the services and support solutions are directed at customer needs from both a business as well as technological aspect.

### **5.2.1 Self Service**

#### **Self Help Information Portal (SHIP)**

DCM was looking to enhance the productivity of County employees across all Departments and agencies, by having a single, easily accessible, simple to use portal for sharing and disseminating information. In response to this requirement, DCM developed a Self-Help Information Portal, or "SHIP." The SHIP application is a high level Knowledge Management tool that captures user based institutional knowledge that facilitates self service information and user training. SHIP contains information on topics as diverse as County procedures, information on the location and use of forms, animated training programs, and frequently asked questions (FAQ's) on a wide variety of subjects, processes and programs. With its intuitive and powerful search capabilities, SHIP has become the first place County staff members look for information

SHIP has brought a new degree of consistency to processes and information dissemination. The education programs that have been conducted around its use and the ease of use DCM designed into the system make the tool usable by even basic computer novices. County employees do use this system. Inquiries are growing at a compounded rate of 10% a month during the past six months, and Departments are routinely adding additional content that in turn enhances the usefulness and functionality of the portal.

The benefits this tool has brought to the County are significant. Thus, SHIP has achieved DCM's initial goal of enhancing productivity and morale by minimizing employees' frustration in obtaining information.

#### **Password Reset**

In the past, network password-reset issues have constituted the 2<sup>nd</sup> most frequently used subject in the County IT Support ticket system, with more than 5,000 password-related issues logged per year. (Source: Magic Service Desk tickets)

Employees in need of a password reset were required to contact the County IT Help Desk, who would then reset the password and leave the new password on the employee's voicemail. The process of contacting the help desk, while ordinarily quick, contributes to employee downtime associated with password reset. For those employees without voicemail, the process (and subsequent downtime) was much longer.

Additionally, the IT Help Desk had no viable means of validating a caller's identity prior to resetting a password. An individual who was able to observe or otherwise obtain an

employee's voicemail password (passwords that require no complexity and have no expiration policy) could possibly contact the help desk, request a password reset, and then obtain the new password from the voicemail system, thus gaining all rights and access to information granted to the compromised account.

To address these issues DTS implemented a Password Station and a Password Bouncer application. These secure, web-based products enforce identification proofing and password policies. They utilize a series of personalized challenge questions to assure that an employee's identity is securely confirmed before allowing the password to be changed. The Password Station and Password Bouncer integrate with all major operating systems and enterprise applications.

DCM implemented the system to provide self-service password reset capabilities to County employees within the County LAN as well as those who telecommute or are on travel.

The benefits of this tool have been:

1. Reduced employee downtime resulting from computer/application lockout
2. Increased information security
3. Increased productivity of County IT support staff responsible for system and application support
4. Increased employee satisfaction

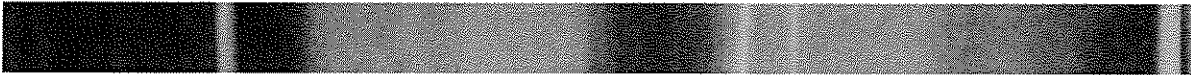
### **5.2.2 Partnerships**

#### **Desktop Support**

The DCM program established a partnership with a private company for the purpose of enhancing the quality of support to the County's users of personal computers and other mobile data devices. The results of the partnership have been outstanding. Through the innovative use of technology coupled with business process improvements, since early 2006, DCM has successfully resolved 96% of user problems over the phone, without needing to dispatch a service technician to the caller's location. The result has improved worker productivity due to a significant decrease in downtime. Furthermore, DCM and its partner have consistently negotiated deep discounts, in the range of 10-30%, in computer acquisition costs as compared to the State of Maryland and other local jurisdictions. The result: savings of hundreds of thousands of dollars and lower total cost of ownership to the County. Results such as these have garnered the DCM program recognition from organizations such as the Public Technology Institute and the National Association of Counties.

Recently, the International Standards Organization (ISO) established the ISO 20000 performance standard as the first formal international definition of quality best practices in Information Technology (IT) operations management. DCM and its partner collaborated to make Montgomery County the first, and currently the only, public sector organization in North America to receive the prestigious ISO 20000 certification. This has given the County global recognition for the quality of its IT support programs.





This year, DCM and its partner teamed to create a self-help information portal (SHIP) for use by County employees. This innovative IT tool contains answers to common questions related to the use of the County's software programs, including hundreds of animated tutorials for self education. It also provides all agencies and organizations with the ability to post answers to procedural questions related to their IT operations for the benefit of all employees. SHIP reduces time consuming inquiries to department IT staff and assists in the training of County IT users.

### **5.2.3 Architectural Proof of Concept**

Given a long history of major gaps between what vendor marketing promised and what vendor implementation deployed, DTS looked for a way to reduce County risk resulting in cost overruns, missed schedules and failed projects, due to the following gap areas.

- Missing functionality
- Lack of Compliance
- Technological (Non-Functional) Issues
- Architecture misalignment
- Inattention to County DR, Backup/Archiving, Security, Platforms, Documentation
- Inattention to County Business Process, Data Integration, Administration

DTS's solution was the development of an Architectural Proof of Concept (APOC) approach.

The APOC starts with Risk Identification

- Technological
- Security
- Quality/Performance
- Functional (TBD)

The APOC then defines and executes "sub-project" prior to Execution phase of the overall Project. The APOC Sub-project has well-defined scope, schedule and resources; and begins with well-documented APOC Goals. The result of the APOC is a comprehensive Issue/Risk Log.

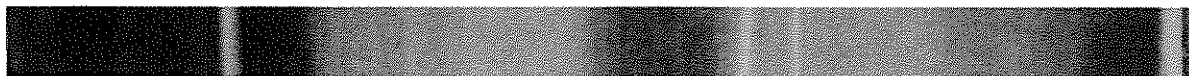


Figure 29 - APOC Phases

**Standard Project Phases without APOC**



**Project Phases with APOC**



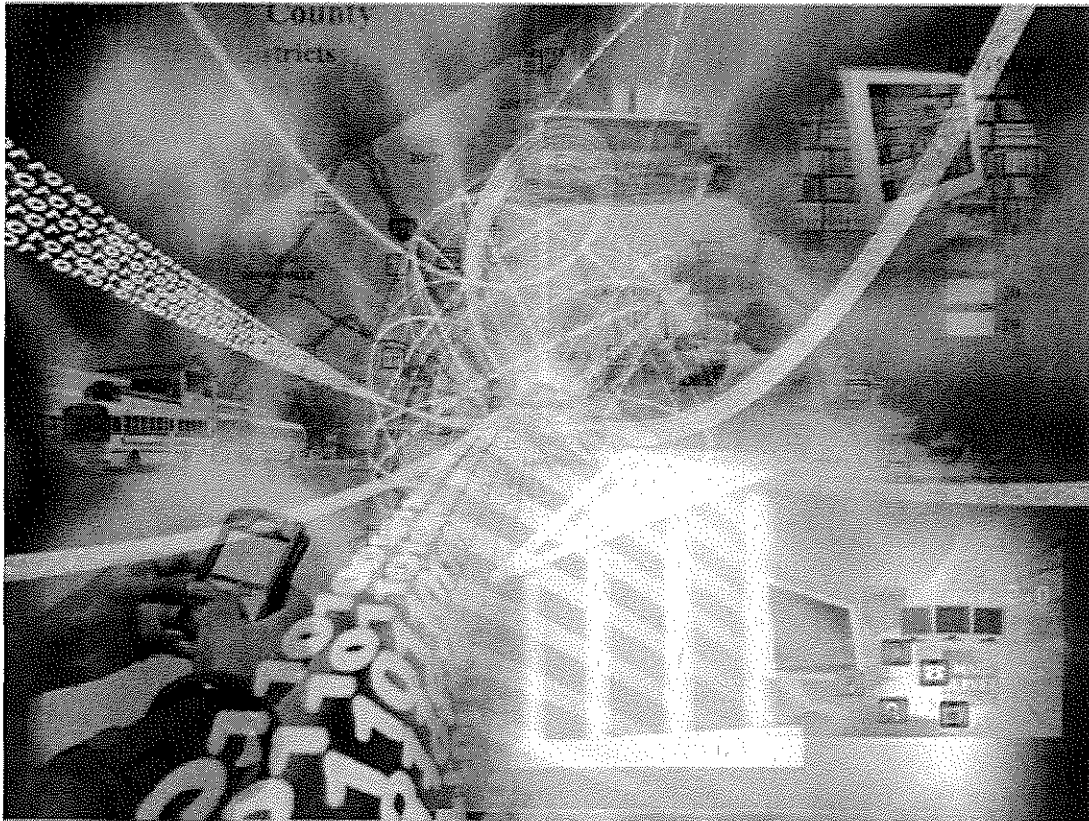
DTS employs the following specific approach to APOCs

- APOC is a distinct phase of the Project
  - After vendor(s) Identification AND before contract signing
- Scope of APOC is communicated to Vendor
  - Reviewing/Deploying/Testing of over TEN categories, including Security/Platform/Integration/Process/Network etc
- Contract/License details are finalized
- A Tiger-team Formed that deploys a Pilot instance
- Reviews/Deployments/Tests are conducted on the Pilot instance
- Issues/Risks are documented and Communicated
- Implementation solution(s) are identified and documented

DTS has found APOCs to be consistently very beneficial including the following results:

- Vendors on projects with APOCs were able better align their offering to meet County needs and architecture
- Projects with APOCs avoided contract and license challenges experienced elsewhere
- County able to verify vendor solution and identify GAP/Risk before contract execution
- County and vendors able to transform risks to issues; find solutions before project implementation and execution
- County and vendors able to build mutual understanding and trust
- Increasing knowledge of tasks, effort and cost and thereby enhancing project execution

The bottom line of APOCs has proven to be the ability of the DTS to use it a powerful leverage point to with vendors to ensure a successful project implementations.



## 6 Governance

Information Technology Governance is a subset discipline of County Governance focused on information technology (IT) systems and their performance and risk management. Attention to gGovernance is a direct outcome of historical acknowledgments that IT projects can easily get out of control and profoundly affect the performance of an organization.

A common theme of IT governance discussions is that the IT capability can no longer be a mystery to the business. Historically, involvement of executives in IT issues was to defer all key decisions to the company's IT leadership. IT governance implies a system in which all stakeholders, including leadership, internal customers, and particular departments, have the necessary input into the decision making process. The goal is the prevention of IT from independently making and later being held solely responsible for decisions that have a less than positive impact. A strong governance model also holds users accountable for decisions when a system does not behave or perform as expected.

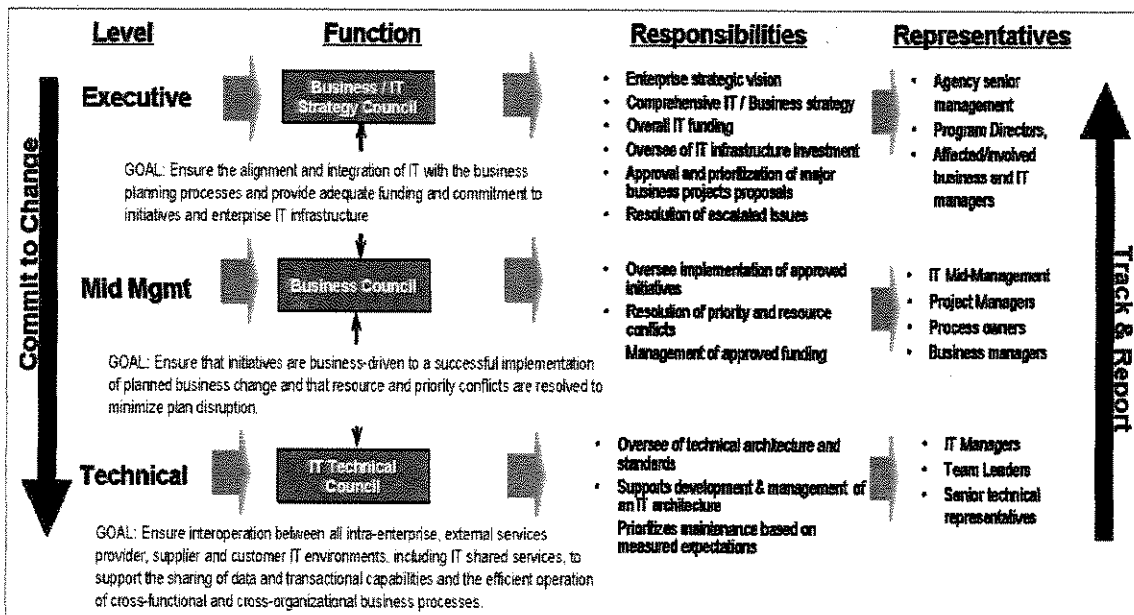
Enterprise Governance is about who is responsible for making major decisions, has input and is accountable for implementing those decisions. Governance objectives are:

- Enterprise Governance assigns decision rights and creates an accountability framework that encourages desirable behavior.
- Business Automation Framework (known in the Technology circles as Enterprise Architecture or EA) Governance is the subset of Business Governance that focuses on setting direction for the County – in terms of how to execute processes and how to use IT; both the business and IT organizations participate.

Once the organization adopts a robust Governance strategy, the model provides the organization with an effective mechanism for planning changes to meet business objectives and support desired outcomes. The governed programs are a proactive response by IT to avoid scars and expensive mistakes by anticipating business needs.

To be fully effective, Governance works better when business owns the business process of planning how to meet their needs, and utilizing technology as the tool for the results. The chart that follows, demonstrates how multiple levels of leadership and input are key to the input required for organized change and the subsequent parallel is the communication that takes place to ensure enterprise knowledge and change success.

Figure 30 - Governance Input



Montgomery County has embraced a variety of governance models that support the business drive to use technology and make effective decisions on technology investments.

## 6.1 Technical Operations Management Group (TOMG)

The TOMG will identify, develop and recommend enterprise policies and strategies required to guide the deployment of information technology solutions and products. TOMG will identify opportunities for improving service delivery throughout Montgomery County Government (MCG). TOMG recommendations will be made to the Chief Information Officer (CIO), the Chair of Information Technology Policy Advisory Committee (IPAC). The IPAC will have final decision authority on recommendations.

To fulfill the County's mission, the TOMG will consider the following:

- The County Executive's Mission Statement
- Customer needs and expectation, internal and external
- Work activities across lines-of-business (LOB) / departments
- The capabilities and limitations of emerging and maturing technologies



### Responsibilities

In fulfilling its purpose, the TOMG will:

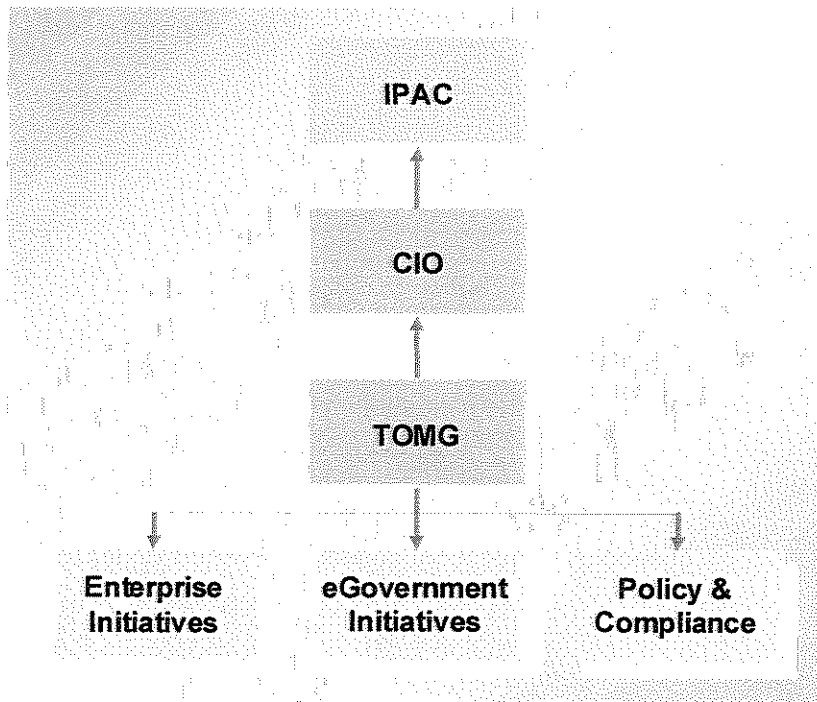
- Establish fundamental operating principles and business practices for, communications, transactions and the use of technology;
- Identify innovations and best practices to compare the effectiveness of MCG activities with government and private sector best practices;
- Strive to maximize the use of technology in MCG Departments, Offices and business lines to benefit customers and other key stakeholders;
- Endeavor to assure that all electronic content is secure, available and accurate;
- Identify key issues bearing upon the advantageous deployment, availability and use of Technology;
- Identify and standardize departmental level policies needed to ensure the security, availability and use of technology;
- Recommend policies and strategies as appropriate to ensure business needs are met;
- Consult with key user-communities and encourage these communities to communicate their technology needs;
- Recommend changes to the County Enterprise Architect; and
- Provide coordination and communication among the various Departmental groups currently working on technology projects in MCG.

### Framework

In order to include all County organizations in Enterprise technology discussions and solutions, the TOMG will be based on a two-tier structure. Tier A will comprise all organizations with "in-house" technical staff. Tier B will comprise all other organizations.

Tier A organizations shall appoint a business and technical representative to the TOMG.  
Tier B organizations should appoint a business representative.

**Figure 31 - TOMG Framework**



The TOMG facilitator, designated by the CIO, will coordinate the meetings. All meetings will have an advance agenda and each meeting will be documented through minutes. Any TOMG representative can add an item to the agenda. Other DTS required representatives include architecture, security and others as required. The TOMG will determine sub-division(s) of work effort. The work products and recommendations of the TOMG will be submitted to the CIO for review and consideration, and then submitted to IPAC for final approval.

Issues or areas of concern will be resolved to the maximum extent possible through consensus. Those issues which cannot be resolved will be forwarded to the CIO for guidance and/or decision.

TOMG representatives may designate an alternate to attend meetings. However, all TOMG representatives must have the requisite knowledge and authority to speak on behalf of the business or technical organization.

## 6.2 Information Technology Policy Advisory Committee (IPAC)

Montgomery County implemented an IT governance structure and processes, based on recognized business best practices, in order to plan, manage, and build support for IT projects, programs and policies. The committee is designed to facilitate the cooperation and communication among various County departments and to establish an institution to promulgate and adopt IT operating standards, policies, and architecture decisions.

The IT governance initiative includes two levels of input and review. First, the Technical Operations Management Group (TOMG) is comprised of technical representatives from each County department. Second, the IT Policy Advisory Committee (IPAC) is comprised of 12 department heads representing a cross section of County departments. The Chief Information Officer (CIO) chairs both groups.

The new IT governance structure has been instrumental in the adoption and implementation of new policies and procedures for the enterprise directory and messaging systems and in developing an overarching IT architecture standard for the County government. The governance structure will allow the County government to steer a course to introduce and coordinate the best use of IT resources in order to improve the service provided citizens and County employees.

### **The Need for Governance**

Montgomery County was experiencing challenges due to the decentralized budgeting, planning, and management of IT systems and services. The decentralized approach fostered duplication of systems and services, operational inefficiencies, stand-alone systems that were unable to share data, and hampered the County in implementing and maintaining enterprise-wide IT initiatives.

In many cases, departments would develop or purchase systems that were not compatible with enterprise systems and had difficulties communicating with other department applications. This resulted in a County IT infrastructure with many vulnerabilities and requiring a greater amount of resources to operate and maintain. Specific examples include over 30 Network domains, over 10 independent e-mail systems, and numerous single function stand-alone business applications. Another result of this environment includes limited or ineffective IT policies.

A symptom of the lack of coordination was that departments did not have a good understanding of the strategic IT plan for the County. The operating departments also did not see the central IT department, DTS, as providing the leadership to guide the County in IT initiatives.

Departments did not have an opportunity to contribute to enterprise initiatives these initiatives with few exceptions failed or achieved limited success. The lack of the governance also hindered securing funds for major IT projects. MCG needed an effective IT governance process that allowed all stakeholders to participate in a formalized process to adopt standards, policies and IT architecture for the County.



The IT governance initiative started with the County Government's CIO recognizing that IT leadership was ineffective. The CIO proposed a two tiered governance structure, comprised of a technical level and a policy level. The technical level was designated the Technical Operations Management Group (TOMG). The policy level was designated the IT Policy Advisory Committee (IPAC). A core group of 12 operating department heads were asked to participate on the committee. The proposal was accepted and endorsed by the Chief Administrative Officer.

TOMG meets on a regular basis and focuses on technical issues. They are also responsible for a first review of policies and how they would impact business operations.

IPAC meets quarterly and focuses on policy issues, but also has the added responsibility of reviewing the standards and technical designs recommended by the TOMG. Since its inception, IPAC has undertaken establishing County policies for Internet and cell phone use, as well as creating County Internet domain naming and portal design architectures.

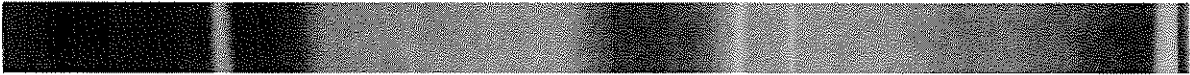
### 6.3 ITPCC Overview

The Interagency Technology Policy and Coordination Committee (ITPCC) was chartered by the Montgomery County Council on July 26, 1994 in Council Resolution No. 12-1758. The rapidly accelerating changes and opportunities presented by new information technologies presented unique challenges to both public and private sectors for efficient utilization of these capabilities. Council desired to provide a framework to encourage agencies of County government to coordinate where possible and leverage opportunities for interagency linkage and economies of scale. As stated by Councilmember Marilyn Praisner who initiated ITPCC, "the taxpayer sees one government" meaning that the differences between agency missions was not apparent to the typical citizen who has the continuing expectation that the agencies of government work together efficiently, not separately.

The mission of ITPCC is to: promote IT strategic planning and coordination among the agencies of MCG that include Montgomery County Public Schools (MCPS), Montgomery College (MC), Montgomery County Government (MCG), Maryland National Parks and Planning Commission (M-NCPPC), Washington Suburban Sanitary Commission (WSSC), and the Housing Opportunities Commission (HOC); provide a forum for coordinated implementation of technology policy and guidelines; facilitate Interagency communication including evaluation and sharing of new technologies, and advise policy makers on strategic uses of technology.

This is accomplished within a structure consisting of the ITPCC Principals, the CIO Staff Subcommittee, Project Teams, Special Interest Groups (SIGs), and Special Subcommittees. The Principals are the agency heads for the ITPCC agencies noted above. The ITPCC establishes policy, reviews work products, and establishes priorities. The ITPCC provides status reports to the Management and Fiscal Planning Committee (MFP) periodically. The CIO Staff Subcommittee reports to the ITPCC and is composed of representatives from each member agency who hold the title or role of a Chief Information Officer (CIO). The Staff Subcommittee meets periodically and proposes the yearly work plan, approves or defines the scope and tasks to be completed by the project work teams,





allocates resources to complete project tasks, reviews and approves project work products, and makes recommendations to the ITPCC based on the results of the work accomplished by the teams. Project Work Teams are designated by the CIO to perform the tasks required by the ITPCC work plan, or other special project assignments as required. Special Interest Groups (SIGs) are typically the offspring of the project work teams that have completed a project. SIGs meet to continue information sharing and dialog on issues of common interagency interest and benefit.

Examples of some of the major interagency project efforts include: development of an interagency GIS Strategic Plan in 1996 (presently being updated); establishing interagency guidelines for Internet policies; the Year 2000 project; establishment of the policy for standard replacement cycles for desktop computer systems (60k plus systems); completion of the FiberNet Strategic Plan; establishment of the Interagency FiberNet Governance Charter; establishment of the FiberNet Interagency Technical Advisory Committee; established the FiberNet Chargeback Policy; created of the FiberNet Designated Reserve Fund; developed of the IT Major Systems asset management models revealing the critical need for adequate resourcing for over \$350 million of major systems replacements and upgrades; established the Interagency Technology Fund (ITF) that currently supports multiple projects including development of Continuity of Operations Plans (COOP) in all agencies, implementation of a Central Vendor Registration System, a strategic roadmap study for CAD systems, and a new GIS Strategic Plan. There are many additional examples of interagency coordination that have been facilitated by the existence of ITPCC.

The ITPCC framework is unique in local government in that it periodically brings together the most senior decision makers in government to discuss issues and coordinate actions on a true interagency basis. The ongoing dialog among the agencies facilitates information exchanges and enables government to be more nimble in adopting policies and technology solutions to effectively and efficiently deliver services to the residents of Montgomery County.

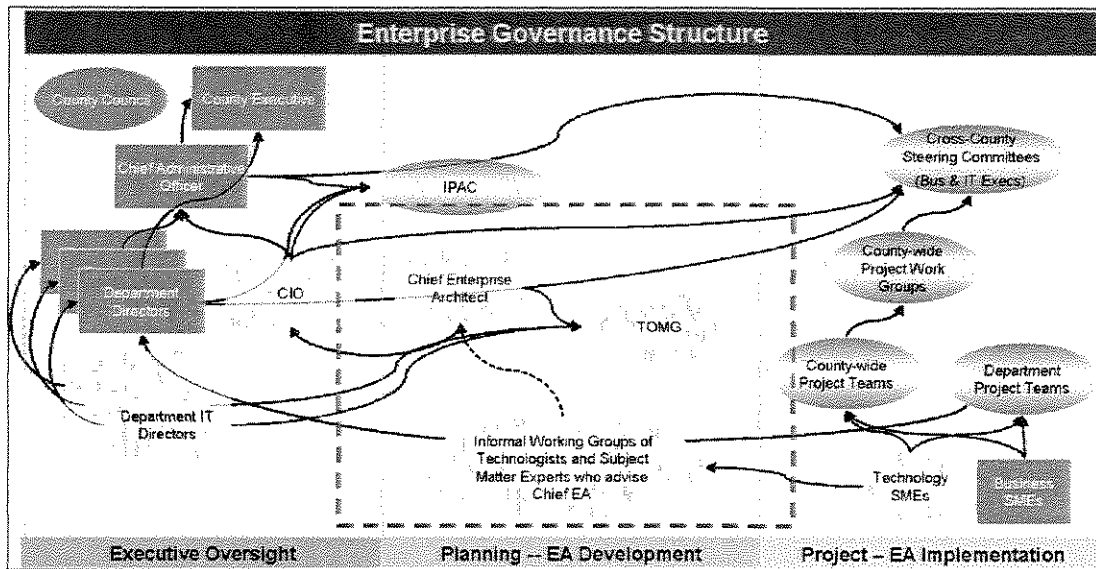
### **Governance Summary**

While Montgomery County has a complex network for technology governance today, the introduction of our future enterprise solutions can add additional complexity to the governance process as well as offer opportunities to streamline the governance model.

In early 2008, as a part of the preparation for Enterprise Resource Planning effort, Gartner was utilized to provide an assessment of technology processes that included the governance model. The assessment outlined the current flow and also provided some recommendations on how the County might look at the future state.

The following image is Gartner's assessment of the current state of the governance model used.

Figure 32 - Enterprise Governance Structure



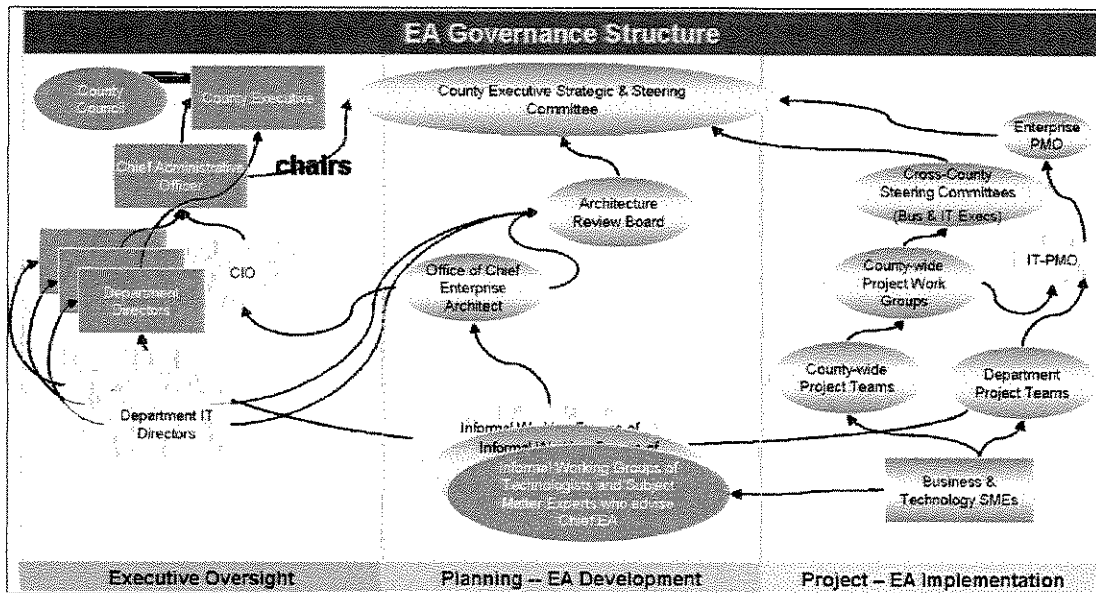
While the Gartner review did not identify any major issues with the as-is model, they did outline risks that needed to be considered. In summary, these were:

1. No formal coordination/reporting structure above Project Steering committees
2. The Project Management Office functionality is only provided for the IT dimension
3. Reliance on informal communications channels and relationships for coordinating issues with indirect stakeholders and other projects
4. Non-Enterprise activities provided limited visibility and coordination with other department initiatives
5. There was the absence of an Architecture Review Board function for providing stakeholder input into enterprise architecture transformation and lacking an enterprise approval process to support compliance.

Gartner clearly articulated that there is no single "right answer" to creating the most effective governance model. Each organization needs to evaluate the strengths and weaknesses of the IT processes to develop a model that has efficiencies, strong communications and promotes a collaborative environment in decision making that may affect the current infrastructure as well as the integration of new systems or solutions.

The following chart is one example of numerous models that were presented for consideration. This example is a direct result of the opportunities that the County will have as larger, enterprise processes begin to permeate the future technology transformations.

Figure 33 - EA Governance Structure



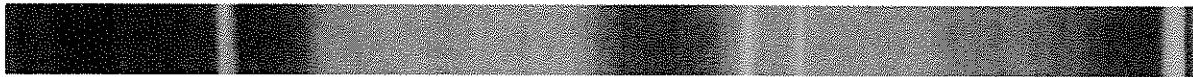
The example provided denotes a number of changes that will need to be considered as the County progresses with the impetus of new, broader technology solutions. The model also provides for the ability to integrate non-core technology efforts into the broader, enterprise model. This is extremely important given the vast number of technology initiatives that will be competing for visibility as their results are continually monitored to ensure the original goals are being met, objectives have not changed and that these programs are healthy to move forward.

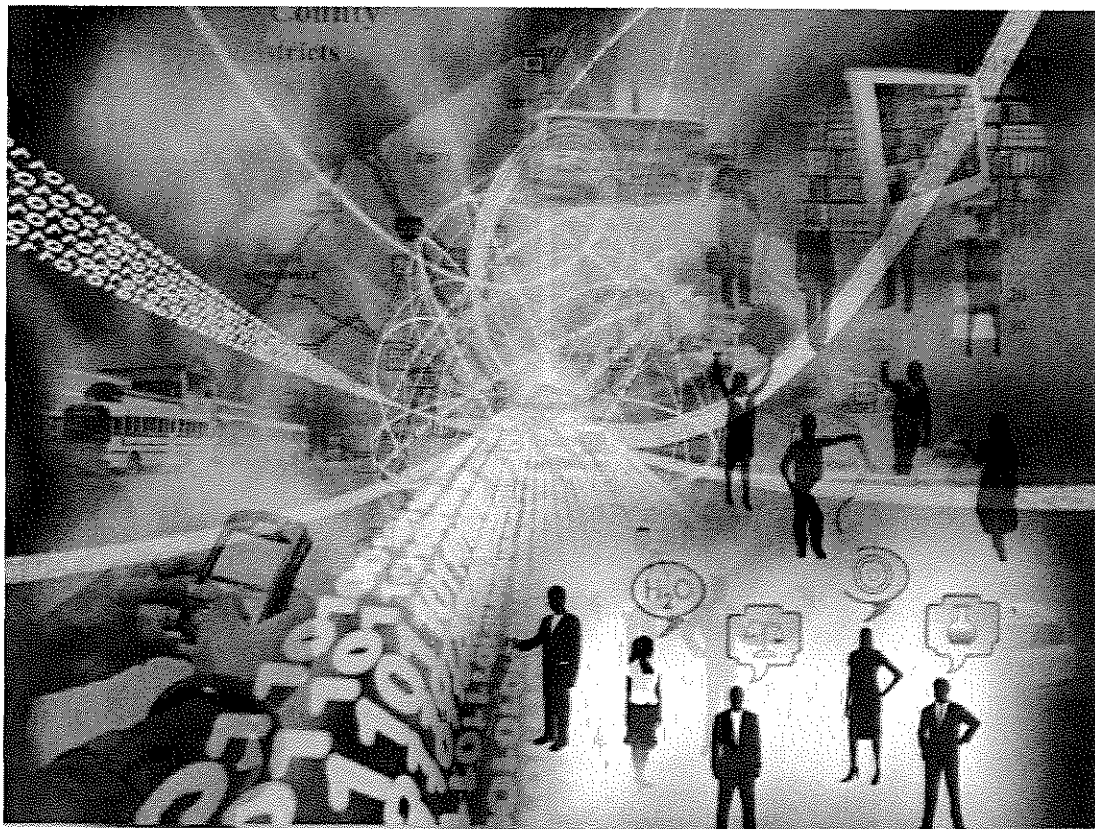
Some of the changes that this model asks the County leadership to examine include a transformation of current governance groups. As an example, the TOMG group in the older model, given the tasks and accountabilities in the current state, transitions into the Architecture Review Board to take more of a technical role in change / modernization recommendations.

Many of the recommendations from the Gartner review have created momentum on the development of a future Enterprise Governance recommendation. While the final outcomes of the leadership have not been finalized, the change in direction and commitment to bringing business views and input into technology transformation is considered a best practice for organizations that truly embrace technology as a tool for future success.

**Goal:**

***Continue to develop leadership oversight mechanisms that provide for business inputs and impacts while managing and modernizing technology to support business outcomes.***





## 7 Resources and People

MCG DTS workforce shares characteristics with other public sector agencies with the impending loss of its institutional and technical memory as well as the ever increasing private sector competition for qualified employees. The DTS strategic response is to develop a proactive approach so that it can meet Department and constituent needs more efficiently, effectively, and with significantly fewer increases employees. To help managers assess current and future workforce trends and plan realistically for the future operations, DTS is developing this Strategic Staffing Plan.

### 7.1 Retention / Attraction

#### **Aging Workforce**

In the U.S. there is a substantial pool of highly qualified workers who are on the verge of retirement. Bureau of Labor Services data shows that some 78 million Baby Boomers will begin retiring in 2010. This will impose a major drain on the existing labor pool. Within the next 10 years, 43 percent of the U.S. workforce will be eligible for retirement. By 2020, nearly 24 percent of the workforce will consist of employees age 55 or older. That is twice the number from 1990.

This reduction in the size of the labor market will impact businesses in two ways. Not only will they need to address the lack of employees in the terms of numbers, they must also consider the loss of vital skills and significant institutional knowledge.

Commonly known as the “brain drain effect,” when the Boomers leave the workforce, they take with them technical expertise that in many cases is not available elsewhere in today’s labor pool. Skills such as mainframe programming and maintenance are not commonly held by many of today’s young professionals and companies either can not or are not ready to give up on these technologies. Consequently there will be a pressing need for businesses to find adequate replacement personnel to support their legacy applications.

One step taken to address this issue was to determine DTS’ vulnerability to the impending labor shortage. To ascertain this, a skill assessment was conducted to identify potential vulnerabilities. An additional step is the continued participation in the MCG’s resource planning and Leadership Development Program (LDP).

### **Baby Boomer Departure**

Although older Americans are willing to continue working, most companies today have no planned retention policies to encourage them to stay. Nor do they have replacement strategies to help their business cope with their exodus. A 2006 AARP survey of 1,000 executives conducted by BusinessWeek Research Services found that a majority of executives are aware of the impending retirement crisis, but few are doing anything about it.

Though 59% of executives said their companies need to be “more proactive in thinking about how to retain workers who are approaching retirement,” only 37% say that their organizations have formal processes to capture key business knowledge from employees who retire or leave. Fewer still have programs to encourage older employees to stay with the company longer (just 16%). When asked if their company is ‘very’ committed to retaining employees who are approaching retirement,” only 14% responded yes.

While DTS can continue to recruit future personnel with technical skills and expertise, an effective alternative would be the retraining of current employees with the required enhanced technical and analytical skills. Retraining will help DTS overcome the scarcity of those specialized skills in the labor market.

Due to the complexities of required technical skills, development may require longer periods of training, perhaps exposure to several months of on-the-job experience.

DTS strives to improve its documentation of strategic job descriptions, particularly with the management and senior IT positions. It is equally important to enhance critical job procedures. Specialized knowledge should be captured and translated into a singular procedural manual, or projected into a configuration management information database. This will leave an informational reference or knowledge base for future employees in the agency.

Additional financial resources for salaries will be needed to successfully attract and retain qualified personnel for these positions, especially as new openings arise.

## Retaining Valuable Personnel

DTS has instituted a more comprehensive individual annual performance review process to provide feedback on the progress of employee development. DTS may also need to identify more formalized financial and non-financial rewards for employees accustomed to advancement and recognition within the constraints of the County's personnel regulations.

## Workforce

This is the first time in history that 4 generations are working side by side in the workplace. They are (as of Oct 2007):

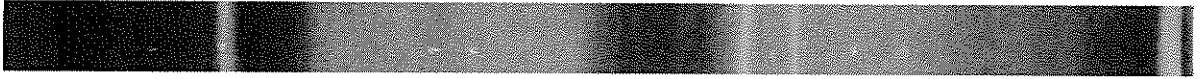
Figure 34 - Workforce Generation Mix

Workforce Generation Matrix		
Veterans	Born before 1944	Youngest is 63
Baby Boomers	Born between 1945-1962	Oldest is 62; Youngest is 45
Generation X	Born between 1963-1982	Oldest is 44; Youngest is 25
Millennials	Born between 1983-2000	Oldest is 24; Youngest is 7

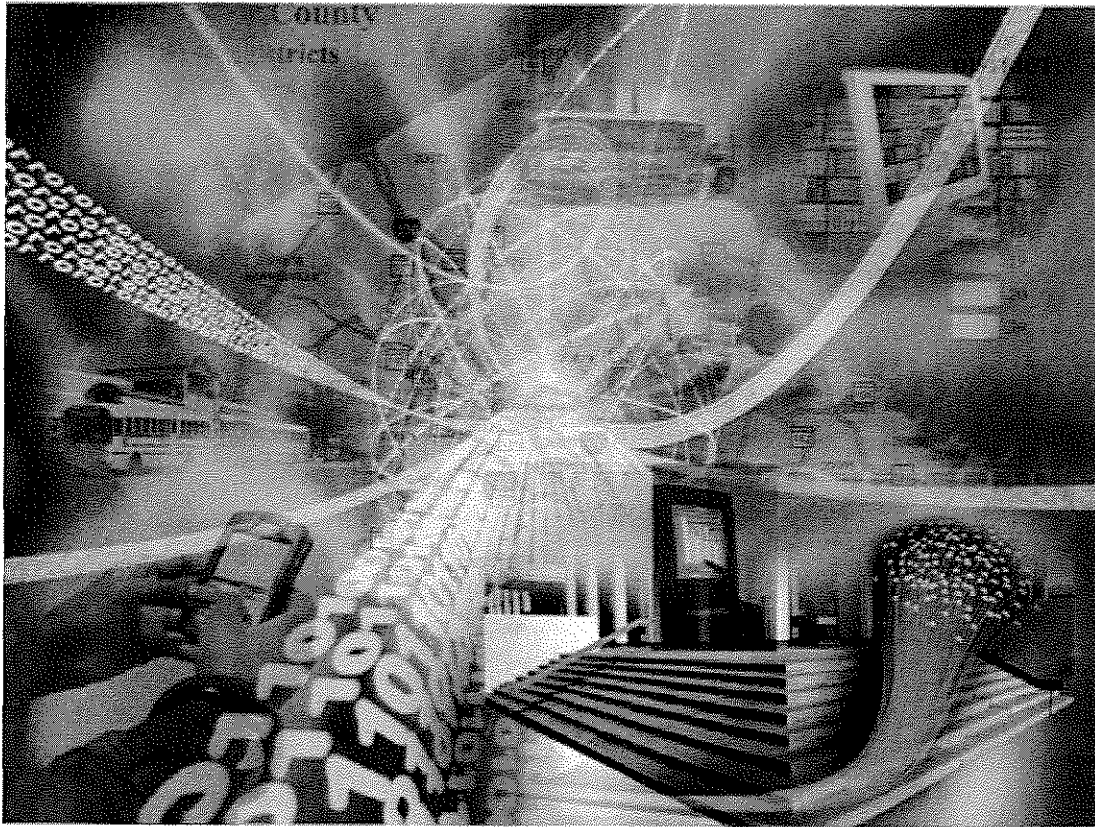
Today's organization is a cross-generational workplace more so than anytime before. Each generation has its own values, views, ambitions, defining events that helped shape their lives. Different ways of talking, thinking and working naturally bring about conflict that needs to be managed, which is a direct result of the considerable diversity of the organization. Management will continue to be challenged as the organization grows and recedes and there is an ongoing need to address the overlap that exists between the generations.

**Goal:**

***Continue to invest in human resources solutions to attract and retain a quality workforce that can support current and future technology strategies while developing resources for new and progressive technology solutions support.***







## 8 Next Steps

### 8.1 Business Assessment and Strategic Alignment

An Enterprise Technology strategy will be the most influential when it can support as well as differentiate the needs of the business. Driving success using IT requires both a view of current business technologies as well as an understanding of the business objectives dependant on technical innovation for success. IT organizations that ensure business strategies are included in setting technology direction will excel in supporting the mission of the business and drive highly successful business initiatives.

It is DTS's goal to create a winning Enterprise Technology strategy that easily demonstrates business value for Montgomery County departments. To complete a well rounded technology strategic plan, business process and objective research will be an ongoing component to a strong, long-term strategic plan.

In an effort to demonstrate a comprehensive approach and provide for positive technology objectives, this strategy champions the overarching intent of "theming" for technology strategies to identify commonalities between the business users. The goal for moving forward would be to ensure that technology solutions and needs be sized, reviewed and presented from the group delivery. The result is intended to clearly demonstrate Return on

Investment (ROI) and maximizing value are a routine part of the business/technology analysis.

DTS has, as a part of the continuing strategy, identified key questions that are designed to initiate business input discussions, help extract key issue information and provide both immediate and long-term opportunities to explore valued technology innovation:

- How does the business area define success?
- How does/can technology help your business succeed?
- How are strategic results measured to demonstrate contribution to business success?
- How are technology needs and objectives communicated to allow for timely innovations?

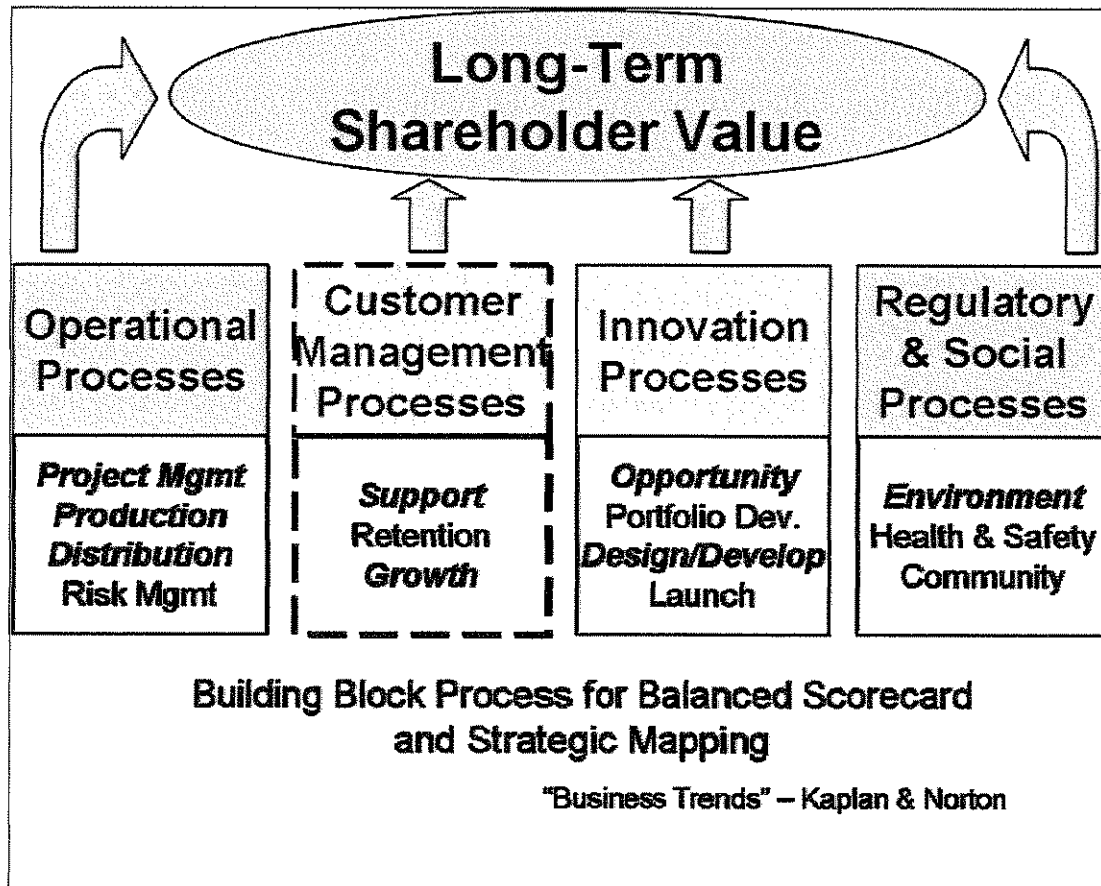
As part of the data-collection process, DTS teams have begun the interview process inclusive of department directors and key departmental Subject Matter Experts (SME). Additionally, information has been collected from the Montgomery County Public Web sites, key internal documents (including Executive Performance Plans and metrics) and surveys. Continuing on information gathering and discovery, an interview process has been designed to interact with any additional departmental resources that further define departmental objectives. The objective of this approach will be to assist departments in recognizing and concurring with collaborative and common technology approaches that will form a more robust, enterprise approach to new technologies.

### **Shareholder Strategy Mapping**

The "Balanced Scorecard", an industry recognized methodology for identifying value, includes a strategic overview of how four key components identify long-term value from the key shareholder perspective. Four components are identified as a part of this mapping:

- Operational Activities
- Customer Management
- Innovation
- Regulatory and Social Aspects

Figure 35 - Building Block Process for Balanced Scorecard and Strategic Mapping



Shareholder acceptance is clearly an outcome of the Customer Management component of the mapping process. The outputs of the process will assist DTS with the identification of gaps in the current strategy, outline areas of near term innovations for business objectives and solutions that may potentially be served through a joint or collaborative program.

### Assessment Objectives

For a progressive technology support operation to be successful, there are business knowledge imperatives that must be considered as a primary component of offering services. To facilitate the understanding of the business function, the assessment will include confirmation of existing, documented business objectives as well as current business challenges. The interview process includes a series of questions that will ensure an accurate understanding of business services, anticipated outcomes and customer success criteria.

With a business objectives confirmation complete, the efforts of the assessment are to understand and document business strategies with a technical component for desired

improvements. It is in this area where the assessment is being developed to align other business processes, either within the framework of the emerging enterprise solutions or an associated business process with similar need. At a minimum, a collaborative and commons solution will create opportunities for technology implementation efficiencies, avoidance of replicate solutions with divergent support models and seizing cost efficiencies through economies of scale.

In addition to technology for business processes and growth, an added component to the assessment includes satisfaction levels and opportunities for immediate support improvements from the current, centralized DTS infrastructure. With a hybrid support model that includes core IT support for some agencies versus ancillary IT support for fully developed departmental IT groups, it is essential that service gaps be included in the analysis.

The outcomes of this comprehensive assessment will assist both the departments and DTS in decisions about foundational technology investments that provide long haul benefit. It will validate the client application portfolio through a next step analysis of existing information by confirming the urgency and priority of business expectations for the life cycle of current, individual and departmental systems with the ability to document dependencies as part of continuity planning and formal Business Impact Analysis (BIA). Finally, it will provide for a more definitive alignment of DTS objectives for departmental technology needs and expectations.

***Goal:***

***Complete the detailed business assessment of all County departments with a validation of existing solution needs and expectations as well as potential technology collaborations***

## 8.2 Long Term Programs

### Enterprise Resource Planning (ERP) Implementation Support

<b>Program</b>	Support and enable an ERP solution plan to provide new technology services and enterprise solutions
<b>Vision/Purpose/Business Reason</b>	<ul style="list-style-type: none"> <li>■ The organization should continue to define and implement an ERP system as a business management solution that integrates all facets of the business, including financial management, human resource management, business process planning, procurement, and implement ERP in business activities such as inventory and asset control, work order tracking, budget preparation, tax functions and citizen information delivery.</li> <li>■ An effective ERP solution can enable new business strategies and lead to cost reductions, work cycle time improvements, productivity, quality and citizen services</li> <li>■ Montgomery County currently is implementing an ERP system for back-office automation. Montgomery County has many legacy systems that can be migrated into the new ERP system with a risk mitigated approach.</li> <li>■ The County's vision for this project is "<i>Transforming the way Montgomery County serves its residents and customers by setting new standards for how government operates.</i>" This statement is a direct extension of the County Executive's goal to become a more responsive government that provides superior service to County Residents and County leaders view ERP as one of the means to meet these goals.</li> <li>■ The County is attempting to address difficult policy and fiscal challenges with inefficient business processes and incomplete information generated by outdated systems. ERP systems use technology to technology to improve decision making and operational efficiency through information integration and process improvement.</li> <li>■ ERP will transform the internal, business processes of the County by providing an integrated business system infrastructure. ERP will replace most aging core business systems in the County and re-engineer and streamline current business processes and reporting.</li> </ul>
<b>Alignment to IT Goals/Objectives</b>	<p>Consolidate (in terms of eliminating redundancy) and improve the technology services to provide effective means to achieve business results and improve operational efficiency</p> <ul style="list-style-type: none"> <li>■ Drive business systems to enterprise solutions</li> <li>■ Manage effective systems development and investment planning and control processes</li> </ul>

	<ul style="list-style-type: none"> <li>■ Increase the usage of current technologies to quickly deliver the functionality</li> <li>■ Remove paths for the continued development and deployment of non-enterprise focused systems that jeopardize the larger benefits of enterprise consolidation, when appropriate. <ul style="list-style-type: none"> <li>• ERP solutions can not be expected to solve all business challenges</li> <li>• Unique business needs should follow an exception validation process to ensure business leadership comprehension of the support and added complexity of non-enterprise solutions integrated into the production environment.</li> <li>• Develop fiscal support plans for counter enterprise solutions, map fiscal support to the operations plan</li> <li>• Reassess business need periodically through business process review and assessment of newer technology solutions</li> </ul> </li> </ul>
<b>Industry Best Practices</b>	<ul style="list-style-type: none"> <li>■ The organization should minimize modifications by developing firm guidelines, and build a business case for each required modification or addition of a module</li> <li>■ It should maintain executive level buy-in, including business unit management concurrence where organizationally applicable, and make change management a top priority by ensuring that a robust change management program is in place throughout the project's implementation.</li> <li>■ The organization should create a quality, ongoing training program that educates end users and technical staff on all of the program solutions, additional modules or third party component solutions</li> <li>■ It should commit quality resources to the project team for the life of the project and hire an experienced, professional project manager who has successfully implemented ERP in a similar environment.</li> <li>■ ERP systems use technology to improve decision making and implement operational efficiency through information integration and process improvements, including centralization, information sharing, and elimination of data and process duplication.</li> <li>■ Change Management is essential to respond to the external forces related to changing customer demands, changing technology (data, systems, and communications), and changing workforce.</li> <li>■ Knowledge Management promotes the ability to identify, capture, store and disseminate information.</li> </ul>



<b>ROI/Potential Benefits</b>	<ul style="list-style-type: none"> <li>■ Achieve savings by increasing management improvements, and offsetting system operation costs.</li> <li>■ Lead to harmonization, standardization, redesign or reevaluation of the County's current business processes.</li> <li>■ Bring about real-time data exchanges with citizens, other County agencies, regional jurisdictions and other business partners</li> <li>■ Formalized adoption can further integrate disparate systems when needs and outputs are continually evaluated.</li> <li>■ Further align systems more closely to mission, business needs and strategy.</li> <li>■ Eliminate inefficient processes, duplication of work effort, and ineffective reporting of information.</li> </ul>
<b>Potential Risks</b>	<ul style="list-style-type: none"> <li>■ Many organizations underestimate the cost and time required to implement – including customization, training and change management (process &amp; communication) costs.</li> <li>■ Most organizations do not take the appropriate time to do as-is and desired-state modeling of critical tasks to drive out key requirements</li> <li>■ Unless the corporate culture supports the basic premises of an ERP solution, such a solution is bound to fail</li> <li>■ Many organizations falter in the selection of an ERP vendor by emphasizing market trends rather than their specific ERP objectives and goals</li> </ul>
<b>Implementation schedule</b>	<p>Montgomery County leadership has adopted a reasonable timeframe for the currently planned ERP implementation.</p> <ul style="list-style-type: none"> <li>• Global Design – August 2009</li> <li>• Core Financials – July, 2010</li> <li>• Human Resources and Payroll – January, 2011</li> <li>• Budget Preparation – July, 2011</li> <li>• Financials Self Service, Portals, Enterprise Asset Management, Inventory – January, 2012</li> <li>• Human Resources Self Service – July, 2012</li> </ul>
<b>Budget</b>	ERP is funded through the Tech Mod Initiative. The total appropriation from inception to January 31, 2009 is \$40M.
<b>Miscellaneous</b>	None

**Customer Relationship Management (CRM) or MC311 Program Support with a focus on Communications, Business Analysis and Process Knowledgebase Documentation**

<b>Program</b>	Establish a 3-1-1/CRM program which focuses on improving responsiveness and accountability across the enterprise through business process workflow, analysis and reengineering.
<b>Vision/Purpose/Business Reason</b>	<p><i>Single point-of-contact for enterprise customer service delivery and customer satisfaction. Improving functionality of existing systems and data quality across County Government.</i></p> <p>The organization should define CRM as a business strategy, where outcomes optimize values such as responsiveness and customer satisfaction by organizing around County service segments, fostering customer-satisfying behaviours and implementing customer-centric processes.</p> <p>The MC311 vision requires the leadership to define MC311 key objectives, set objective milestones and determine how the County will be presented to customers. An effective CRM program can increase customer satisfaction by defining customer behaviour and requirements, and measuring satisfaction.</p> <p>MC311 is a customer facing initiative that will use technology to help improve how customers contact the County for information and non-emergency services. A single phone number (311) will be used for customers to call for non-emergency service requests coupled with a back office system to track responses and completion of work requests.</p>
<b>Alignment to IT Goals/Objectives</b>	<ul style="list-style-type: none"> <li>■ Incorporate best practices in technology management as appropriate for Montgomery County's governing model <ul style="list-style-type: none"> <li>• Expand the PMO to support the lifecycle of technology services including application portfolio, CRM data and infrastructure</li> </ul> </li> <li>■ Consolidate and/or eliminate redundancies and improve the technical services to provide effective means to achieve business results and improve operational efficiency <ul style="list-style-type: none"> <li>• Establish IT service levels through the standardization of IT products, services and delivery processes</li> <li>• Increase communication internally and externally to make both internal and external users aware of products and service offerings, ongoing complimentary DTS initiatives and activities</li> </ul> </li> </ul>
<b>Industry Best Practices</b>	<p>Technology support organizations should have CRM program support model with business process analysis function with dedicated staff with the following responsibilities in order to make the associated technology projects and interfaces successful to build credibility with the business departments:</p> <ul style="list-style-type: none"> <li>■ Seek and obtain Executive sponsorship for long-term</li> </ul>



	<p>direction technology decisions</p> <ul style="list-style-type: none"> <li>■ Participate in a leadership Executive Steering Committee that supports a functional/business subject matter experts and dedicated project team staff, including technology and enterprise architecture professionals</li> <li>■ Develop policy and identify methodologies and processes for building business cases, business process improvements, reengineering, performance management and change management.</li> <li>■ Be responsible for the business consulting function—working with businesses to identify needs and to translate process and improvement needs into business technical requirements.</li> <li>■ Seeks out and works to incorporate public services best practices into Montgomery County's business processes</li> <li>■ Maintain strategic focus in understanding functional business</li> <li>■ Communicate/interpret business/technology governance for users</li> <li>■ Communicate/interpret functional business needs to technical staff</li> <li>■ Focus on customer-facing programs and delivery of County services</li> <li>■ Identify new service needs</li> <li>■ Identify new/change requirements</li> <li>■ Assist with requirements prioritizations and integrate into business case for funding</li> <li>■ Communicate business value</li> <li>■ Support the integration of requirements across the enterprise</li> <li>■ Work closely with Countywide strategic planning, executive performance planning and County Stat reporting processes</li> <li>■ Participate in acceptance testing</li> <li>■ Act as liaison between business and the technology function</li> <li>■ Work closely with project managers to ensure project efforts meet constituent expectations</li> </ul>
<b>ROI/Potential Benefits</b>	<ul style="list-style-type: none"> <li>■ An effective CRM program enables the organization to increase customer satisfaction, attract new residents/businesses</li> <li>■ The organization can also enhance service opportunities, reduce programs and service costs, decrease operational costs <ul style="list-style-type: none"> <li>• As part of creating greater responsiveness and accountability in meeting the needs of a very diverse county, Montgomery County will implement a single,</li> </ul> </li> </ul>

	<p>one-stop shopping telephone number, 311, that connects callers to a call center to place non-emergency requests for Government service, information, or complaints.</p> <ul style="list-style-type: none"> <li>• MC311 will provide managers with real time data on how requests are handled and customer needs are met. This will provide the oversight and management system to hold the County accountable for successfully responding to the needs of the public.</li> <li>• MC311 calls will be answered by a person with a broad knowledge of the County's programs and services and who will be able to respond to the caller or place the caller in contact with a person that can meet their needs.</li> </ul> <ul style="list-style-type: none"> <li>■ MC311 will enhance relationships with the County's constituents.</li> </ul>
<b>Potential Risks</b>	<ul style="list-style-type: none"> <li>■ CRM strategies will fail to articulate the mission values and overstate the benefit to the resident experience; the result will be a significant decrease in the benefits from CRM and further reduce resident satisfaction</li> <li>■ A lack of coordinated data management will increase costs to manage information and likely produce unqualified information trends</li> <li>■ User acceptance of business process change is still a challenge <ul style="list-style-type: none"> <li>• Governments do not handle change well</li> <li>• Change Management support and emphasis is not consistent and measured</li> <li>• Change Management focus tends to dwindle versus increasing</li> </ul> </li> </ul>
<b>Implementation schedule</b>	<ul style="list-style-type: none"> <li>■ Phase 1 Part 1 identified the customer facing services provided by County departments and offices and documented how customers contact the County to obtain these services. This phase mapped the "as is" state of the business.</li> <li>■ Phase 1 Part 2 is currently underway and will identify how the County fulfills the request for service by focusing on business processes and resources. This discovery phase focuses on how these services are provided to the customer.</li> <li>■ Phase 2 is the Envision Phase and will focus on Business Process Reengineering. This stage maps the "to be" state of the business.</li> <li>■ Phase 3 is the Define Phase. The gaps between the "as is" and the "to be" states are analyzed to determine the changes required to achieve the desired business results.</li> </ul>

	<ul style="list-style-type: none"> <li>■ Phase 4 is the Build and Deliver Phase.</li> <li>■ Soft Launch is planned for January, 2010.</li> <li>■ Public Launch is planned for March, 2010.</li> </ul>
<b>Budget</b>	MC311 is funded through the Tech Mod Initiative.
<b>Miscellaneous</b>	None

### Complete Automated Timesheet Implementation (MCtime)

<b>Program</b>	Complete the implementation of automated time and attendance collection across the enterprise.
<b>Vision/Purpose/Business Reason</b>	<p>The organization should continue to complete the business strategy that has identified time and attendance data collection in an automated process. The County has identified work time issues, especially in the tracking of hourly wage and overtime challenges as a significant opportunity for improvement.</p> <p>The County's vision for this solution is a more defined and documented solution to track employee time and attendance, identify opportunities where overtime appears to be excessive and allow for factual validation of employee work hours for specific jobs and services. Additionally, removing a highly manual process improves the accuracy of time data collection, removes costly third party services for data entry and reduces the information collection for the bi-weekly payroll process.</p> <p>Electronic Time Reporting (MCtime) replaces the labor intensive, error prone manual process of handling thousands of paper timesheets every two weeks, with an automated solution that will enable more efficient business processes and accurate accounting of compensatory and overtime hours. MCtime streamlines the County's overall payroll process by creating efficiencies in individual departments and payroll.</p> <p>Providing clear analytics, enhanced time and attendance information reporting and emphasis on overtime reduction opportunities contribute to the County's mission of a more accountable government.</p> <p>As of February, 2009, MCtime has been successfully implemented in eighteen departments and is targeted to rollout to the remainder of the County in phases through June, 2010.</p>
<b>Alignment to IT Goals/Objectives</b>	<ul style="list-style-type: none"> <li>■ Incorporate best practices in technology management as appropriate for Montgomery County's migration to an enhanced automation and enterprise model <ul style="list-style-type: none"> <li>• Follow PMO best practices to complete the project and establish long-term support throughout the application lifecycle using appropriate technology support services</li> <li>• Implement opportunities from lessons learned from early stages of from project initiation through implementation</li> </ul> </li> <li>■ Revalidate and improve technology project services to provide effective means to achieve a final solution that delivers business results and improves operational efficiency <ul style="list-style-type: none"> <li>• Establish and maintain project milestones incorporating the process improvements during the remaining</li> </ul> </li> </ul>

	<p>implementation.</p> <ul style="list-style-type: none"> <li>• Document and standardize product support through the use of appropriate vendor services and solution delivery processes</li> <li>• Continue to improve communications to make users aware of the solution and work toward improving ongoing training as well as future project initiatives and activities</li> </ul>
<b>Industry Best Practices</b>	<p>IT Organizations have the responsibility to develop and implement process improvement solutions through an ongoing business process analysis function with appropriate dedicated staff. Success factors of major automation projects include:</p> <ul style="list-style-type: none"> <li>■ Define and maintain project management best practices throughout the effort</li> <li>■ Develop policy and identify methodologies and processes for building business cases, business process improvements, reengineering, performance management, and managing change.</li> <li>■ Responsible for the business consulting function—working with County departments and offices to identify gaps and to translate process and improvement needs into business requirements.</li> <li>■ Identify new or changed requirements</li> <li>■ Participate in acceptance testing</li> <li>■ Work closely with project managers to ensure project efforts meet project expectations</li> </ul>
<b>ROI/Potential Benefits</b>	<ul style="list-style-type: none"> <li>■ An effective automated time and attendance solution enables the organization to validate employee payroll, minimize the impact to the organization and users by achieving the highest level of accuracy in payroll processing as well as identify and correct any inconsistencies in work hours, overtime or other paid benefits.</li> <li>■ The elimination of the paper timesheet process and the implementation of enhanced business rules for overtime will reduce staff time spent handling and compiling time and attendance information.</li> </ul>
<b>Potential Risks</b>	<ul style="list-style-type: none"> <li>■ Completion of the implementation in line with public safety requirements and an aggressive implementation plan remains a challenge.</li> <li>■ User acceptance of change is still a challenge <ul style="list-style-type: none"> <li>• Largest departments remain to be implemented</li> <li>• Integration with public safety scheduling systems remains a high risk and complex program component.</li> </ul> </li> </ul>
<b>Implementation schedule</b>	<ul style="list-style-type: none"> <li>■ Hire recommended staff to attain the aggressive project plan</li> <li>■ Monitor implementation plan and completion dates</li> </ul>

	<p>alignment to achieve the ERP timeline</p> <ul style="list-style-type: none"> <li>■ As of February, 2009, MCtime implementation is on schedule. <ul style="list-style-type: none"> <li>• Currently deploying to Group 2 – DOCR</li> <li>• Working on Operational Readiness with Group 3 – DPS, RSC, HRC, SHF, SOE, BOA, IGO, MSPB, OZAH, ECM and OPC.</li> <li>• Sessions for documentation and configuration are being conducted with Group 4 – FRS and Group 9 – POL/DHS.</li> </ul> </li> </ul>
<b>Budget</b>	MCtime is funded through the Tech Mod Initiative.
<b>Miscellaneous</b>	None

## Integrated Justice Information System (IJIS)

<b>Program</b>	Support and enable an IJIS solution to facilitate the exchange of data about criminals and criminal activity between Montgomery County agencies, the State of Maryland, and the Federal Government.
<b>Vision/Purpose/Business Reason</b>	<p>IJIS allows for electronic access and sharing of law enforcement and criminal justice data at various key decision points throughout the County's justice system processes. IJIS uses standard web-based technologies to provide a single user entry point to link together mission-critical information from various systems.</p> <p>IJIS is the means by which the criminal justice agencies are able to uncouple the current all in one Criminal Justice Information System (CJIS). While CJIS is a set of data tables that holds all Criminal Justice data together in one older, limited and failing system, IJIS allows the individual agencies the flexibility to replace their core components with systems that are specialized for their business processes rather than making agencies fit into the CJIS framework.</p> <p>IJIS will ensure that criminal justice agencies can accomplish their individual missions, while still exchanging data that is vital to the public's safety.</p> <p>IJIS will directly improve the delivery of public safety services to an estimated one million residents of the County and facilitate easier data transfers between the County and both State and Federal public safety agencies.</p> <p>The IJIS Core consists of:</p> <ul style="list-style-type: none"> <li>• Inquiry - Allows end users to query other agency databases for needed criminal information.</li> <li>• Arrest History - Allows end users to query for Non-E*Justice (RMS) arrest information, i.e., Maryland State Police and Park Police</li> <li>• Transport - Performs an automated check of all inmates against both the Circuit and District Court Dockets and prepares a transport list based on the matches.</li> </ul> <p>■ IJIS Subcomponents consist of:</p> <ul style="list-style-type: none"> <li>• Juvenile Justice Information System (JJIS) - The JJIS system will allow end-user agencies to access the appropriate data needed during each step in the juvenile justice process, while minimizing duplicative entry of data by each agency.</li> <li>• E*Justice (RMS) - The records management application will integrate the operating units of MCPD into one records and case management system and allow the Sheriff's Office to tie work processes together into a single system. The mobile report writing application will</li> </ul>



	<p>enable officers in their squad cars to perform data entries in the field and submit electronically to the records management system.</p> <ul style="list-style-type: none"> <li>• Correction and Rehabilitation Information Management System (CRIMS) - The jail management system will provide for improved information sharing and biometric controls for both initial identification and subsequent verification of offenders. The system will provide the benefits of onetime data entry for multiple uses, powerful reporting capabilities, and specific technology improvements that will modernize all functions of DOCR and replace a large number of secondary, shadow systems and manual records.</li> <li>• State's Attorneys Office Case Management System (SAO CMS) - The case management system will revolutionize the administrative mechanics at the SAO, allowing a transition from an antiquated, manually intensive business process to an automated system that will dramatically increase efficiency, facilitate easier and faster access to case information and related events, improve productivity, provide accurate and timely statistical information, and offer digital storage capability for closed cases.</li> <li>• Circuit Court Case Management System (CCT CMS) - The system will provide judges with access to critical information in the courtroom pertaining to a defendant's status, prior to making a judicial ruling, while sharing that information with other criminal justice agencies.</li> </ul>
<b>Alignment to IT Goals/Objectives</b>	<p>IJIS allows the County to move its criminal justice system infrastructure off of 1970's mainframe technology that has very limited support and therefore limits the functional and collaborative capabilities.</p> <p>The objective of IJIS is to allow the agencies to continue to coordinate and share information regardless of their distributed applications</p> <p>In 2004 the Montgomery County Criminal Justice (CJ) agencies embarked upon major business process changes:</p> <ul style="list-style-type: none"> <li>• CJ agencies introduced the use of open and flexible information technology systems to meet their agency's records management needs</li> <li>• Individual systems are being designed around the needs of each organization</li> <li>• Individual system integration and data sharing happens under the IJIS umbrella.</li> </ul>



<b>Industry Best Practices</b>	<p>IJIS will be designed with modern internet-based architecture, open standards, and security features that meet current demands for information exchange and are highly flexible.</p> <p>IJIS will be flexible enough to allow individual agencies to improve internal information technology architecture for business process improvement, while maintaining proper links to other agency databases crucial to public safety.</p>
<b>ROI/Potential Benefits</b>	<p>For the State's Attorney's Office, IJIS will greatly improve the ability to share information systemically by improving the capabilities for receiving bond information from the Department of Correction and Rehabilitation; warrant and arrest information from the Sheriff's Office and the Police Department; and case information from the District and Circuit Courts.</p> <p>For the Police Department, IJIS brings the migration from CJIS to a full integration of criminal justice information systems. The E*Justice system will initiate much of the data flow through IJIS and between the IJIS partners. The status of cases and individuals will be clearly available to all IJIS users. Current business processes will be streamlined, data will be available when needed, and coordination between agencies will be easily accomplished. This data will significantly improve the interaction with citizens and overall safety of citizens and officers.</p> <p>For the Sheriff's Department and the Department of Correction and Rehabilitation, IJIS will bring significant productivity gains through more efficient data sharing and retrieval capabilities. With automated case data feeds directly from the Circuit and District Courts, the IJIS Inmate Transport utility allows for faster and more accurate data sharing between Department of Correction and Rehabilitation and the Sheriff's Office for the transport of inmates to and from court. In addition, the IJIS Transport utility allows for automated scheduling of non-court inmate transports, such as medicals, as well as ad hoc transports that will facilitate the efficiency of all inmate transports.</p> <p>For the Circuit Court, IJIS will provide Judges with instant access to critical information in the courtroom pertaining to a defendant's status prior to making judicial rulings while sharing that information with other agencies, i.e., State's Attorney's Office, Public Defenders Office, Police Department, Sheriff's Office, Parole and Probation, Department of Health and Human Services (DHHS), Department of Corrections and Rehabilitation. The Judges will have access while in the courtroom of recognizing scheduling conflicts for police officers, probation agents and other County officials prior to scheduling case hearings.</p>

	<p>The ROI for IJIS Core must be measured with value as a consideration. There are several areas within IJIS Core where gains will be measured and quantified:</p> <ul style="list-style-type: none"> <li>• IJIS Inquiry - Reduction in seek and find time for needed offender data and faster response results to queries</li> <li>• IJIS Arrest History - Faster retrieval of data specific to non E*Justice jurisdictions</li> <li>• IJIS Transport - Reduction in missed appearances or special transports and more timely and precise preparation of inmates for transport</li> </ul>
<b>Potential Risks</b>	<p>Continuing financial crisis – continued pressure and additional savings plans</p> <p>Ability to staff resources in the timeframe required</p> <p>New State CIO – building working relationship</p> <p>Single threaded resources</p>
<b>Implementation schedule</b>	<p>IJIS Core:</p> <ul style="list-style-type: none"> <li>• IJIS Inquiry is in production as of October, 2008, and is ready for departmental data migrations from CJIS. IJIS Inquiry support is planned to transition to DTS during the first quarter of 2009.</li> <li>• Arrest History was completed September, 2006.</li> <li>• Transport was completed April, 2006.</li> </ul> <p>IJIS Subcomponents:</p> <ul style="list-style-type: none"> <li>• JJIS Version 1.9 was promoted to production in November, 2008.</li> <li>• E*Justice – Currently undergoing data migration efforts from CJIS to E*Justice. Data migration tentatively scheduled to be completed April 2009</li> <li>• CRIMS contract was signed in December, 2008. Phase 1 planning is underway and tentatively scheduled for an end of year 2009 completion. CRIMS core solution is targeted for completion by end of Fiscal Year 2012.</li> <li>• SAO CMS completed training in January, 2009. The first phase of SAO is scheduled to be complete in June 2009. SAO CMS core solution is targeted for completion by end of fiscal year 2010.</li> <li>• CCT CMS planning is targeted for fiscal year 2010.</li> <li>• Complete IJIS solution is targeted for fiscal year 2013.</li> </ul>
<b>Budget</b>	The total budget for IJIS is \$13M
<b>Miscellaneous</b>	None

## Corrections and Rehabilitation Information Management System (CRIMS)

<b>Program</b>	Support and enable a CRIMS solution to bring automation to the Department of Correction and Rehabilitation (DOCR).
<b>Vision/Purpose/Business Reason</b>	<p>The CRIMS project will bring complete automation to the DOCR by eliminating paper-based processes and procedures and increasing productivity and efficiency.</p> <p>The jail management system will provide for improved information sharing and biometric controls for both initial identification and subsequent verification of offenders.</p> <p>CRIMS will provide the benefits of onetime data entry for multiple uses, powerful reporting capabilities, and specific technology improvements that will modernize all functions of DOCR and replace a large number of secondary, shadow systems and manual records.</p>
<b>Alignment to IT Goals/Objectives</b>	<p>As part of IJIS, CRIMS promotes the same IT goals and objectives.</p> <p>IJIS allows the County to move its criminal justice system infrastructure off of 1970's mainframe technology that has very limited support and therefore limits the functional and collaborative capabilities.</p> <p>The objective of IJIS is to allow the agencies to continue to coordinate and share information regardless of their distributed applications</p> <p>In 2004 the Montgomery County Criminal Justice (CJ) agencies embarked upon major business process changes:</p> <ul style="list-style-type: none"> <li>• CJ agencies introduced the use of open and flexible information technology systems to meet their agency's records management needs</li> <li>• Individual systems are being designed around the needs of each organization</li> <li>• Individual system integration and data sharing happens under the IJIS umbrella.</li> </ul>
<b>Industry Best Practices</b>	<p>As part of IJIS, CRIMS will be designed with modern internet-based architecture, open standards, and security features that meet current demands for information exchange and are highly flexible.</p> <p>As part of IJIS, CRIMS will be flexible enough to allow individual agencies to improve internal information technology architecture for business process improvement, while maintaining proper links to other agency databases crucial to public safety.</p>
<b>ROI/Potential Benefits</b>	<p>The ROI for CRIMS must be measured with value as a consideration. There are several areas within CRIMS where gains will be measured and quantified:</p> <ul style="list-style-type: none"> <li>• Faster identification of repeat offenders</li> </ul>

	<ul style="list-style-type: none"> <li>• Reduced booking processing time</li> <li>• Decreased manual data entry, reduced opportunity for data entry errors</li> </ul>
<b>Potential Risks</b>	<p>Continuing financial crisis – continued pressure and additional savings plans</p> <p>Ability to staff resources in the timeframe required</p> <p>New State CIO – building working relationship</p> <p>Single threaded resources</p>
<b>Implementation schedule</b>	CRIMS contract was signed in December, 2008. Phase 1 planning is underway and tentatively scheduled for an end of year 2009 completion. CRIMS core solution is targeted for completion by end of Fiscal Year 2012
<b>Budget</b>	The CRIMS allocations fall under the IJIS budget
<b>Miscellaneous</b>	None

### State's Attorneys Office (SAO) Case Management System (CMS)

<b>Program</b>	Support and enable an SAO CMS solution to bring automation to the State's Attorneys Office (SAO).
<b>Vision/Purpose/Business Reason</b>	<p>The SAO CMS project will bring complete automation to the SAO by eliminating paper-based processes and procedures and increasing productivity and efficiency.</p> <p>The case management system will revolutionize the administrative mechanics at the SAO, allowing a transition from an antiquated, manually intensive business process to an automated system that will dramatically increase efficiency, facilitate easier and faster access to case information and related events, improve productivity, provide accurate and timely statistical information, and offer digital storage capability for closed cases.</p>
<b>Alignment to IT Goals/Objectives</b>	<p>As part of IJIS, SAO CMS promotes the same IT goals and objectives.</p> <p>IJIS allows the County to move its criminal justice system infrastructure off of 1970's mainframe technology that has very limited support and therefore limits the functional and collaborative capabilities.</p> <p>The objective of IJIS is to allow the agencies to continue to coordinate and share information regardless of their distributed applications</p> <p>In 2004 the Montgomery County Criminal Justice (CJ) agencies embarked upon major business process changes:</p> <ul style="list-style-type: none"> <li>• CJ agencies introduced the use of open and flexible information technology systems to meet their agency's records management needs</li> <li>• Individual systems are being designed around the needs of each organization</li> <li>• Individual system integration and data sharing happens under the IJIS umbrella.</li> </ul>
<b>Industry Best Practices</b>	<p>As part of IJIS, SAO CMS will be designed with modern internet-based architecture, open standards, and security features that meet current demands for information exchange and are highly flexible.</p> <p>As part of IJIS, SAO CMS will be flexible enough to allow individual agencies to improve internal information technology architecture for business process improvement, while maintaining proper links to other agency databases crucial to public safety.</p>
<b>ROI/Potential Benefits</b>	<p>The ROI for SAO CMS must be measured with value as a consideration. There are several areas within SAO CMS where gains will be measured and quantified:</p> <ul style="list-style-type: none"> <li>• Faster retrieval of case information</li> </ul>

	<ul style="list-style-type: none"> <li>Increased ability to reference and store efficiently</li> </ul>
<b>Potential Risks</b>	<p>Continuing financial crisis – continued pressure and additional savings plans</p> <p>Ability to staff resources in the timeframe required</p> <p>New State CIO – building working relationship</p> <p>Single threaded resources</p>
<b>Implementation schedule</b>	<p>SAO CMS completed training in January, 2009. The first phase of SAO CMS is scheduled to be complete in June 2009. SAO CMS core solution is targeted for completion by end of fiscal year 2010.</p>
<b>Budget</b>	<p>The SAO CMS allocations fall under the IJIS budget</p>
<b>Miscellaneous</b>	<p>None</p>

## 9 Appendix 1 – Acronym List

Acronym	Title, Subject, or Phrase Usage
AGC	Architecture Governance Council
ATM	Asynchronous Transfer Mode
ATM	Asynchronous Transfer Mode
AVL	Automatic Vehicle Location System
BIA	Business Impact Analysis
Bitmap	.bmp
BPS	Bits per second
CAD	Computer Aided Dispatch
CATV	Cable Television
CCCT CMS	Circuit Court Case Management System
CE	County Executive
CIO	Chief Information Officer
CJ	Criminal Justice
COG	Council of Governments
COOP	Continuity of Operation Plan
COOP	Continuity of Operations
COTS	Commercial Off
CPR-Central	Compliance & Policy Resource Central
CRIMS	Correction and Rehabilitation Information Management System
CRM	Constituent Relationship Management
CTO	Chief Technology Officer
DED	Department of Economic Development
DHHS	Department of Health and Human Services
DHS	Department of Emergency Management and Homeland Security
DOCR	Department of Correction and Rehabilitation
DoT	Department of Transportation
DR	Disaster Recovery
DR/COOP	Disaster Recovery/Continuity of Operations Plan
DTS	Department of Technology Services
EA	Enterprise Architecture
e-commerce	Electronic Commerce
EDI	Electronic Data Exchange
EJB	Enterprise Java Bean
eMessaging	Information about Exchange, it's Network architecture, available training and questions
EMG	Emergency Management Group
ERP	Enterprise Resource Planning
e-text	Electronic Text
E-time	Execution Time
ETSP	Enterprise Technology Strategic Plan
ETX	End of Text
EULA	End-User License Agreement
FCE	Flatten Consolidate Extend



GIS	Graphic Information Systems
GIS	Geographic Information Systems
GIS	Geographic Information System
HIPPA	Health Insurance Portability and Accountability Act
HOC	Housing Opportunities Commission
HTML, XHTML	Hyper Text Markup Language
HTTPS	Secure Hypertext Transfer Protocol
IDS	Intrusion Detection System
IJIS	Integrated Justice Information System
IPAC	Information Technology Policy Advisory Committee
ISATP	Security Awareness and Training Program
ISP	Internet Service Provider
IT	Information Technology
ITPCC	Interagency Technology Policy Coordination Committee
ITSP	Information Technology Strategic Plan
IVR	Interactive Voice Response Services
JJIS	Juvenile Justice Information System
JMS	Java Messaging Services
LDAP	Lightweight Directory Access
MC311	Montgomery County Constituent Relationship Management
MCCATS	Montgomery County Consulting and Technical Services
MCFRS	Montgomery County Fire and Rescue Services
MCG	Montgomery County Government
MCPS	Montgomery County Public Schools
MITIRPS	Mercury Intake and Request Process System
MNCPPC	Maryland National Capital Park and Planning Commission
MNCPPC	Maryland National Park and Planning Commission
NCR	National Capital Region (Council of Governments – COG)
ODBC	Open DataBase Connectivity
OPI	Office of Public Information
PBX	Private Branch Exchange
PBX	Private Branch Exchange
PCI	Payment Card Industry
PMO	Project Management Office
PPP	Point-to-Point Protocol
PSCS	Public Safety Communications Systems
PSRS	Public Safety Radio Systems
QSR	Quality Service Review
RMS	Record Management System
RMS	E*Justice
RSS	Really Simple Syndication
SaaS	Software as a Service
SAO CMS	State's Attorneys Office Case Management System
SAP	Systems Applications Products
SDLC	System Development Life Cycle
SHIP	Self Help Information Portal
SOAP	Service Oriented Access Protocol
TCP/IP	Transmission Control Protocol

TDM	Time Data Multiplexing
TOMG	Technical Operations Management Group
UDDI	Universal Description Discovery and Integration
VoIP	Voice Over Internet Protocol
WAN	Wide Area Network
WMATA	Washington Metropolitan Area Transit Authority
WSDL	Web Services Description Language
WSSC	Washington Suburban Sanitary Commission
WWW	World Wide Web
XML, XSLT	Extensible Markup Language
.zip	Compressed Archive File